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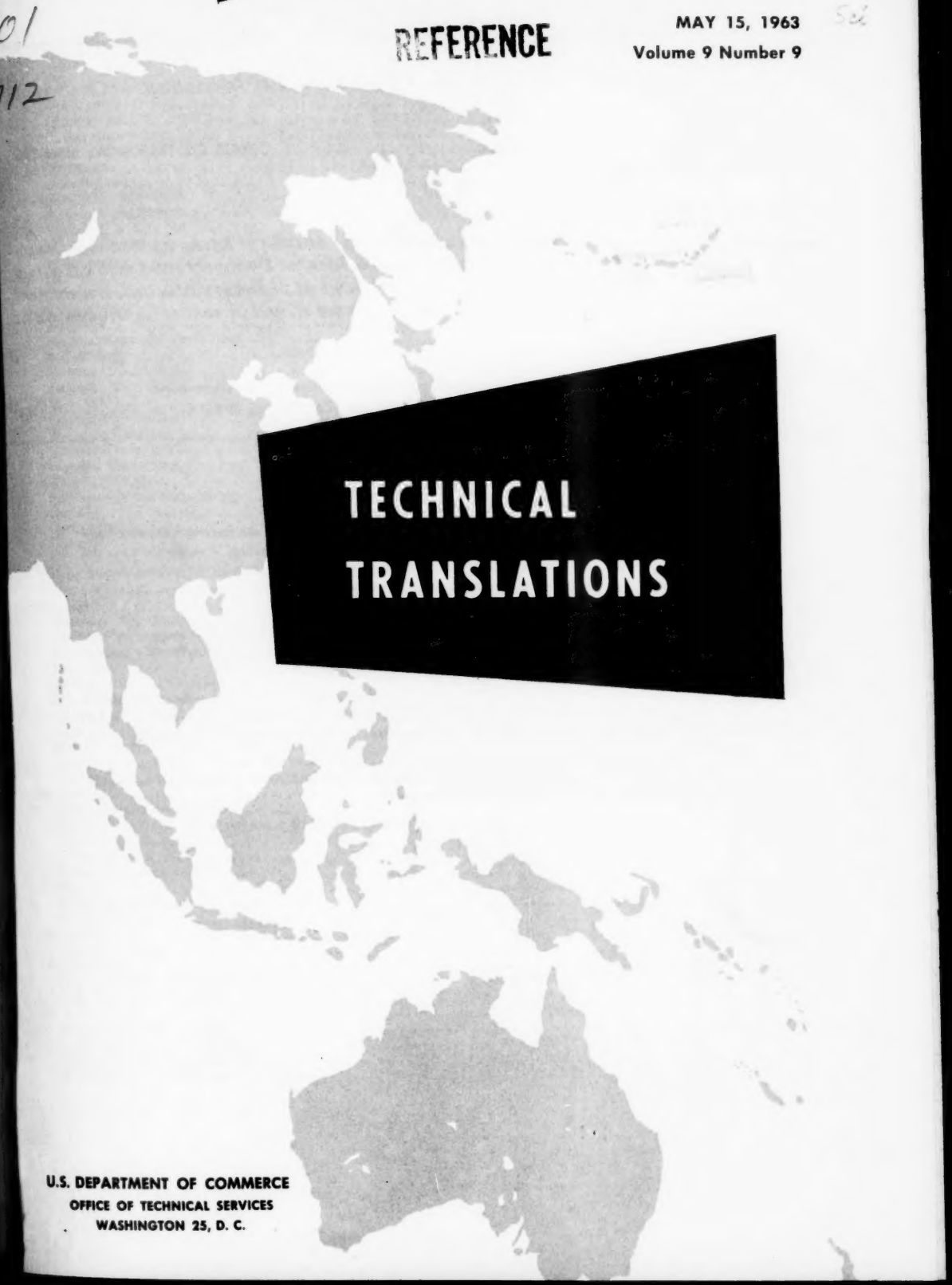

TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
OFFICE OF TECHNICAL SERVICES
WASHINGTON 25, D. C.

TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
Luther H. Hodges, *Secretary*

OFFICE OF TECHNICAL SERVICES

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UNITED STATES DEPARTMENT OF COMMERCE
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WASHINGTON 25, D. C.

TECHNICAL TRANSLATIONS

Volume 9, Number 9 Pages 861 - 973 May 15, 1963

*Descriptors marked with an asterik are listed in the subject index.

Contents:
Cybernetics and automatic control, by V. Trapeznikov
The metallurgical works of the future, by K. Kostenetskii
Characteristic features of the next twenty years; alterations in the structure of the economy and the developments of the inter-branch links as revealed by the General Long-Term Plan, by N. Oznobin and F. Shevyakov
Main scientific research institute, by A. Tselikov
The broadest road to knowledge.

BIBLIOGRAPHY

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 97 (GENERAL SERIES). 5 Mar 63 [24]p. JPRS: 17953.
Order from OTS $0.75 63-21250

Consists of abstracts of articles from the East European scientific and technical journals of Hungary and Poland.

DESCRIPTORS: *Abstracts, Bibliography, *Social sciences, *Mathematics, Meteorology, Astronomy, History, Biology, Scientific organizations.

NLL TRANSLATIONS BULLETIN, 1962, VOL. 4, NO. 6, P. 497-592. June 62, 1v.
Order from HMSO $0.77, $9.86/year

This bulletin includes reports on visits, translations available on loan and for purchase from National Lending Library and trans. from Izvestiya (USSR) 1962, 8 Feb, p. 4; Ekonomicheskaya Gazeta (USSR) 1961, no. 18, p. 21-22, 26-27; 1962, no. 4[25] p. 4-5; and Pravda [Moscow] 1962, 28 Feb, p. 1.

DESCRIPTORS: *Translations, *Cybernetics, Automatic, Control, *Metallurgy, Industrial plants, *Management engineering, Economics, *Scientific research, Education, Gears, Production, Iron, Ores, *Scientific reports, *Bibliography.

Ray, Richard G.
AERIAL PHOTOGRAPHIC INTERPRETATION: A BIBLIOGRAPHY. 1960 [4]p. 15 refs.
Order from OTS or SLA $1.10 62-32773

DESCRIPTORS: *Bibliography, *Photo interpretation, Aerial photography, *Aerial photographs.

AGRICULTURE

THE INCREASE OF PRODUCTIVITY OF SWAMPED FORESTS (Povyshenie Produktivnosti Zabolochennykh Lesov) tr. by A. Birron and Z. S. Cole. Symposium papers from a conference held in Moscow, 9-12 Dec 57. 1963, 153p. 102 refs. PL-480 Agr.
Order from OTS $1.50 61-31225

Trans. of Akademiya Nauk SSSR. Institut Lesa. Trudy, 1959, v. 49.

DESCRIPTORS: *Swamps, Trees, *Forestry, *Drainage, Decomposition, Growth, *Soils, Soil mechanics, *Bacteria, Roads, Railroads, Hydrology, Effectiveness, *Transportation, *Aerial photography, Mechanical engineering, *Agriculture, *Mosses, Inhibition, Economics

Contents:
Preface
Draining of forests in the USSR, by M. G. Pinchuk
Typological characteristics of swamped forests bearing on drainage work, by N. I. P'yavchenko
Role of calcium in peat decomposition processes in forest swamps, by B. D. Zaitsev
Various data on growing conditions in forests on reclaimed transitional swamps, by P. I. Kollist
Role of soil organisms in decomposition of organic remains in swamped forest soils, by L. S. Kozlovskaya
Influence of natural features of extensive swamplands on construction and use of lumber transport roads and railroads, by E. A. Galkina
Regulation of hydrological regime by biological methods in areas undergoing swamping, by A. A. Molchanov
Some results of projects to increase productivity of swamped forests by means of drainage, by E. D. Sabo
Degree of forest drainage in Latvian SSR, by Ya. Ya. Klyavin'sh
Forest drainage projects in Estonia, by L. A. Polli
Methods of employing aerophotography in ameliorative foresthydrological projects, by I. D. Dmitriev
Studies of the National Forestry and Forestry Mechanization Research Institute on forest drainage, by N. F. Sozykin
Increase of productivity of swamped forests by means of drainage, by V. Khainla
Benefits of forest drainage with special reference to quality of peaty soils, by S. E. Vomperskii
Forestry and agricultural problems of utilizing unforested high bogs in Estonia, by U. Valk
Liming as a method of combating mosses in forest stands on moss-covered felled areas and drained swamps, by P. L. Bogdanov
Afforestation of felled areas overgrown with polytrichaceous mosses, by V. G. Chertovskoi
Ameliorative drainage as a means of ensuring reforestation, by V. G. Rubtsov
Restoration and repair of forest drainage systems in sphagnous and polytrichaceous groups of forestry types, by V. D. Grigor'ev
Chief methods and principles of hydrotechnical amelioration of Poles'e forests, by S. Kh. Budyka

SOVIET BIOLOGICAL RESEARCH IN AGRICULTURE. 8 Feb 63 [26]p. JPRS: 17535.
Order from OTS $0.75 63-21083

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1962 [v. 27] no. 5, p. 804-812. ##Another trans. of (p. 806-809) is available from OTS or SLA $1.60 as 63-13848, JPRS-16987, 4 Jan 63 [15]p.

DESCRIPTORS: *Biology, Scientific research, *Agriculture, *Cytochemistry, Molecular properties, *Pest control, Insects, *Electron microscopy, Conferences

Contents:
Long range agricultural research, by Z. V. Poznyakova
##The importance of molecular biology, by I. V. Sukhanova
Fighting harmful insects, by A. B. Gukasyan
Seminars on electrical microscopy, by V. A. Smirnova

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 51. 14 Jan 63 [21]p. JPRS: 17118.
Order from OTS or SLA $1.60 63-15105

Partial trans. of Zemledelie i Zhivotnovodstvo [Moldavii] (USSR) 1962 [v. 7, no. 11] p. 48; Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 11, p. 77-83; and from Kommunist Ukrainy (USSR) 1962 [v. 38] Aug, p. 19; Pravda Ukrainy (USSR) 1962, 18 Nov; Ekonomicheskaya Gazeta (USSR) 1962 [no. 44(65)] 27 Oct.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Vegetables, Culture, Food, Production, Scientific research, Industrial plants.

Contents:
Improved farm machinery production called for in the Ukraine
New machines for the cultivation of vegetable crops
The universal T-40 wheeled tractor, by A. M. Plyasov
SKD combine for two-stage threshing, by K. G. Kolganov and P. L. Barvenko
Tractor-mounted KPN-2 direct-flow grain-harvesting combine, by V. L. Pashkin
Proposal for the centralization of scientific research institutes, by A. Vasilenko and G. Kukta
The Gomel' agricultural machinery plant, by Ya. Glezer.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 57. 5 Mar 63 [51]p. JPRS: 17949.
Order from OTS $1.25 63-21249

Trans. of Nauka i Zhizn' (USSR) 1962 [v. 29] no. 11, p. 20-26 (excerpts); Traktory i Sel'khozmashiny (USSR) 1962 [v. 32] no. 12, p. 1-3, 14-15 (excerpts) 23-25, 31; Mekhanizatsiya i Avtomatizatsiya Sotsialisticheskogo Sel'skogo Khozyaistva (USSR) 1962, no. 6, p. 3-7; and from Kazakhstanskaya Pravda (USSR) 1962, 16 Nov (excerpts); Izvestiya (USSR) 1962, 19 Dec; Sel'skaya Zhizn' (USSR) 1963, 13 Jan.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Design, Industrial plants, Quality control.

Contents:
Self-propelled chassis, by K. Levitin and others
Shortcomings of Tselinograd Kazakhzsl'mash plant, by P. Malinka
Towards raising the quality of agricultural machinery, by N. N. Tarasov
Basic tasks in unifying the design of parts being produced by tractor building, by M. P. Kashavin
Maturity in the designer's thinking, by Kh. Izakson
The second life of parts, by V. Popkov
Basic directions of the development of tractor-building, by I. I. Trepenenkov
The conditions and prospects of work on the development of mechanization means for harvesting ensilage crops, by K. Klement'ev
PPN-30 picker loader, by I. P. Shvetsov and A. V. Petrovskii.

Hlivowicki, Roman.
DISPLACEMENT OF SOIL AND THE SHAPE OF CULTIVATED FIELDS (Przemieszczenie Gleb i Ksztalt Pol Uprawnych) tr. by J. Humnicka. 1962 [27]p. 36 refs. PL-480 Agr.
Order from OTS $0.50 60-21539

Trans. of Roczniki Nauk Rolniczych. Ser[ia] F: [Melioracji i Uzytkow Zielonych (Poland) 1955, v. 71, no. 1, p. 90-109.

DESCRIPTORS: *Soils, Soil mechanics, *Erosion, Inhibition, Agriculture.

Sazonov, P. V.
RESULTS OF TESTING NEW INSECTICIDES IN 1961. 17 Sep 62 [8]p. JPRS: 15295.
Order from OTS or SLA $1.10 63-15711

Trans. of Zashchita Rastenii ot Vreditelei i Boleznei (USSR) 1962 [v. 7] no. 6, p. 34-36.

DESCRIPTORS: Tests, *Insecticides, Pest control, Plants, Toxicity, Insect control.

As a result, the following insectisides have been recommended for production use: chlorophos--against the eurygaster (adult specimens or larvae), the corn weevil, the larvae of the Colorado potatoe beetle, and cabbage caterpillar; keltan--to eliminate plant-toxic mites on fruit and citrus crops; tedion--against fruit ticks in gardens and citrus orchards; methylmercaptophos--to elimate suctorial pests of cotton and plant-toxic mites from fruit crops; solutions of DDT and DDT containing the gamma-isomer of GKhTsG, geksakhlorantsiklogeksan; hexachlorancyclohexane, in oils that do not burn the plant--against a complex of leaf-biting forest pests.

Szklarz, Wladyslaw.
PRESENT AND FUTURE DEVELOPMENT OF SPRINKLING EQUIPMENT IN POLAND (Stan i Mozliwosci Rozwoju Urzadzen Deszczujacych w Polsce) tr. by D. Lachert. 1962 [17]p. 11 refs. PL-480 Int.
Order from OTS $0.50 61-31311

Trans. of Gospodarka Wodna (Poland) 1958, v. 18, no. 1, p. 13-18.

DESCRIPTORS: *Irrigation systems, *Sprinklers, *Poland, Power supplies, Pumps, Pipes, Sprays, Costs.

Animal Husbandry

LIVESTOCK PRODUCTION. 18 Mar 63 [32]p. JPRS: 18183.
Order from OTS $1.00 63-21346

Trans. of Zhivotnovodstvo (USSR) 1962, v. 24, no. 10, p. 3-19.

DESCRIPTORS: *Agriculture, *Animals, Cattle, Swine, Sheep, Birds, Meat, *Production, *Genetics, Milk.

Contents:
Recommendations for the raising and fattening of cattle, swine, sheep, and fowl
The use of pedigreed animals from the cattle farm of the "Gorki Leninskie" experimental station.

Dedyurin, M. A., Pomortsev, G. N. and others.
INCIDENCE OF TOXOPLASMOSIS IN DOGS. [1962] [7]p. FASEB manuscript no. S 56-2.
Order from OTS or SLA $1.10 63-15414

Trans. of Veterinariya (USSR) 1962 [v. 39] no. 3, p. 58-60.

DESCRIPTORS: *Toxoplasmosis, *Dogs, Drugs, Antigens and antibodies.

Naimanov, I. L.
THE REACTIVITY OF SHEEP IN BRUCELLOSIS IN RELATION TO AGE. [1962] [8]p. FASEB manuscript no. S 57-2.
Order from OTS or SLA $1.10 63-15413

Trans. of Veterinariya (USSR) 1962 [v. 39] no. 3, p. 48-50.

DESCRIPTORS: *Adaptation (Physiology), *Sheep, *Brucellosis, Age factors, Veterinary medicine.

Plant Cultivation

Blaim, Kazimierz.
OUTLINE OF METHODS USED FOR THE DETERMINATION OF NORNICOTINE IN VEGETABLE MATERIAL. [1962] 12p.
Order from K-H $15.00 K-H 12596

Trans. of Postepy Nauk Rolniczych (Poland) 1962, v. 9, no. 2, p. 109-116.

DESCRIPTORS: *Nicotine, *Vegetables, Chemical analysis.

Dabrowski, Andrzej.
PRELIMINARY DETERMINATION OF THE EFFECT OF FOREST MANAGEMENT METHODS UPON THE PHYSICAL AND MECHANICAL PROPERTIES OF WOOD (Wstepne Okreslenie Wplywu Metod Zagospodarowania Lasu na Fizyczne i Drewna) tr. by R. Dzieciolowski. 1962 [36]p. PL-480 Agr.
Order from OTS $0.50 60-21241

Trans. of Sylwan (Poland) 1952, v. 96, no. 3, p. 283-304.

DESCRIPTORS: *Forestry, *Wood, Pine, Physical properties, Mechanical properties, Tensile properties, Density.

A comparison was made of the wood properties of trees grown in a shelterwood system and those grown in a clear-felling system. On the basis of the obtained results, pine from the shelterwood system has higher bulk density, but the quality of its wood expressed in relation of strength to bulk density is not at all higher; on the contrary, it shows some tendencies to drop. Such results would suggest that shelterwood system in pine stands does not assure higher quality of timber production.

Demolon, Albert, Boischot, Pierre, and Tyszkiewicz, Edwige.
THE DIFFUSION OF SOLUBLE PHOSPHATE FERTILIZERS, tr. by Bertha P. Klenova. 21 Jan 57, 4p. TVA 3605.
Order from OTS or SLA $1.10 62-32246

Trans. of [Academie des Sciences, Paris]. Comptes Rend[us] (France) 1950, v. 230, p. 595-598 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: *Phosphates, *Fertilizers, Solubility, *Diffusion, Soils, Moisture.

When a soluble phosphate is introduced on the surface of a column of soil, the fixation is very rapid; the percolated water contains only traces of it. On the other hand, reversion takes place, that is, conversion to compounds which are more or less resistant to reagents.

Heretofore these two concepts of the chemical order have dominated the dynamics of P_2O_5 in the soil. They furnished the principles for the rational use of phosphate fertilizers, but they turned out to be inadequate. We devoted our attention to the first phase of the phenomenon, that is, the diffusion of P_2O_5. The diffusion was studied in silica gels or agar-agar gels containing 1.5 per cent agar, located in Petri dishes and colored by addition of neutral red. With this technique it was possible to study visually the progress of the phenomenon with time. (Author)

Fukarek, Pavle.
THE PRESENT SPREAD OF SERBIAN SPRUCE (PICEA OMORIKA, PANCIC) AND SOME DATA CONCERNING ITS STANDS (Danasnje Rasprostranjenje Panciceve Omorike (Picea Omorika, Pancic) i Neki Podaci o Njenim Sastojinama) tr. by Dusan Glumac. 1962, 75p. 223 refs. PL-480 Agr.
Order from OTS $0.75 61-11205

Trans. of Bioloski Institut, Sarajevo. Godisnjak (Yugoslavia) 1950, v. 3, no. 1/2, p. 141-198.

DESCRIPTORS: *Spruce, *Forestry, Trees, Ecology, Growth, Distribution, Taxonomy, Forest fires.

Nikolovski, T.
AN INVESTIGATION OF MICROTEMPERATURE CONDITIONS IN SOME FOREST TYPES (Izucavanje na Mikrotemperaturnite Uslovi po Nekoi Tipovi Sumi) tr. by Dusan Glumac. 1962, 34p. 18 refs. PL-480 Agr
Order from OTS $0.50 61-11207

Trans. of Sumarski [Naucno Opiten] Institut, Skopje. Godisnik (Yugoslavia) 1958, v. 3, p. 3-30.

DESCRIPTORS: *Forestry, Trees, Ecology, *Temperature, Growth, Taxonomy, *Plants, *Climatic factors.

Schoen, U., Barbier, G., and Henin, S.
REVERSION OF CALCIUM PHOSPHATES IN THE SOIL, tr. by Bertha P. Klenova. 15 July 54, 3p. 2 refs. TVA 3310.
Order from OTS or SLA $1.10 62-32266

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1954, v. 238, p. 2255-2257 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: *Calcium compounds, *Phosphates, Solubility, Soils, Fertilizers.

Calcium phosphates, of the ratio Ca:P = 1-1.5, the initial solubility of which is much higher than that of phosphate solutions in normal soils, tend to dissolve partially in alkaline soils and then to form an insoluble residual phosphate in these phosphate solutions. The amount of this residual phosphate increases with increase of the ratio Ca:P in the initial phosphate. (Author)

ASTRONOMY

Egorov, V. P.
SERVOSYSTEMS WITH SPHERICAL-COORDINATE CONVERTERS BASED ON ROTARY TRANSFORMERS. 5 Dec 62 [18]p. 3 refs. FTD-TT-62-1194.
Order from OTS or SLA $1.60 63-15290

Unedited rough draft trans. of Sbornik Rabot po Voprosom Elektromekhaniki (USSR) 1961 [no. 5] p. 162-176.

DESCRIPTORS: *Astronomical observatories, *Automation, *Servomechanisms, Circuits, Vector analysis.

Plyugin, G. A.
RESTORATION AND EXAMINATION OF THE L. A. SUKHAREV CO-ORDINATE MEASURING MACHINE. 21 Nov 62 [29]p. 7 refs. FTD-TT-62-744.
Order from OTS or SLA $2.60 63-15286

Unedited rough draft trans. of Astronomicheskaya Observatoriya, Pulkova. Izvestiya (USSR) 1960, v. 22, no. 1[166] p. 184-196.

DESCRIPTORS: *Astronomical data, Mapping, *Photo interpretation, *Optical instruments, Microscopes, Prisms (Optics), Screws.

This work gives a description of the coordinate measuring machine designed to measure 240 x 240 mm negatives and points out some of its features which may be used later on in measurements. The basic operations in the restoration of the measuring machine, which was damaged during the war, are described. Studies of the progressive and periodic repairs to the screw and curvature of the guiding prism are cited. Results of the examination indicate the good quality of the machine, which is entirely usable for exact astrographic measurements. (Author)

Astrophysics

PROBLEMS OF COSMOGONY, 1958, VOL. 6: [SELECTED PARTS]. [1962] [57]p. 73 refs.
ACIC RR-49.
Order from OTS or SLA $5.60 63-13558

Trans. of Voprosy Kosmogonii (USSR) 1958, v. 6, p. 291-329 and 368.

DESCRIPTORS: *Solar systems, *Galaxies, Gravity, *Philosophy, Quantum mechanics, *Relativity theory.

Contents:
The present status of cosmological science , by G. I. Naan
3. Relativistic cosmology
4. Postulative theories
5. Cosmology and experience
6. Tendencies and perspectives
Table of contents.

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 54. 5 Mar 63, 21p.
JPRS: 17977.
Order from OTS $16.00/year 61-11147-54
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics, Oceanography, Meteorology.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 55. 19 Mar 63, 25p.
JPRS-18204.
Order from OTS $16.00/year 61-11147-55
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics, Oceanography, Meteorology.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

SOVIET RADIO TELESCOPES: SELECTED ABSTRACTS OF SOVIET LITERATURE AND APPENDIX OF RELATED ARTICLES. 6 Feb 63 [44]p. 14 refs.
AID Rept. P-63-21.
Order from OTS or SLA $4.60 63-15669

Trans. of [#Radiotekhnika i Elektronika (USSR) 1961, v. 6, no. 3, p. 422-436.
Another trans. is available from OTS or SLA $1.60 as 62-24874 [1962] [15]p. and of p. 422-429 only $1.60 as 62-24410, MCL-1086, 19 Sep 61 [13]p.

DESCRIPTORS: *Abstracts, *Radio astronomy, *Telescopes, *Reflectors, Extraterrestrial radio waves, Plants, Antennas, Design, Construction, *Parabolic bodies.

Appendix Contents:
Radio telescope with a 22-meter parabolic reflector (Physical Institute of the Academy of Sciences of the USSR) by P. D. Kalapchev and A. E. Salomonovich
Investigations of some electrical parameters of the antenna of a 22-meter radio telescope, by A. M. Karachun and others.

Badalyan, G. S.
ABOUT ONE GROUP OF THE SUSPECTED VARIABLES OF THE TYPE T-TAURUS (Ob Odnoi Gruppe Zapodozrennykh Peremennykh Tipa T Tel'tsa) tr. by Zanis Stuberovskis. 9 Dec 61 [8]p. E-T-R-61-8.
Order from OTS or SLA $1.10 62-25102

Trans. of Akademiya Nauk Armyanskoi SSR [Erevan]. Doklady, 1960, v. 31, no. 5, p. 261-265.

DESCRIPTORS: *Stars, *Variable stars, *Nebulae, Morphology, Maps.

Barabashev, N. P.
VENUS, tr. by Douglas Scott and Dolores Mohr. June 62 [37]p. 23 refs. Rand Memo. RM-3194-JPL; [NASA N62-13515].
Order from OTS or SLA $3.60 62-25646

Trans. of chapter from mono. Issledovanie Fizicheskih Uslovii na Lunye i Planetakh (Investigations of the Physical Conditions of the Moon and Planets) Kharkov, 1952.

DESCRIPTORS: Planets, *Venus, Astronomical data, *Optical properties, Brightness, Albedo (Astronomy), Colors, Scattering.

In this chapter N. P. Barabashev summarizes and reviews certain important observational data bout Venus, particularly the brightness distribution, albedo, color index and indicatrix of scattering as obtained by Schoenberg, Müller, Danjon, King, Barabashev, and others. (Author)

Benediktov, E. A. and Getmantsev, G. G.
SPORADIC SOLAR RADIO EMISSION ON LOW FREQUENCIES (Sporadicheskoe Radioizluchenie Solntsa na Nizkikh Chastotakh) tr. by Zanis Stuberovskis. 20 Dec 61 [16]p. 7 refs. E-T-R-61-9.
Order from OTS or SLA $1.60 62-25101

Trans. of #Izvestiya Vysshikh Uchebnykh Zavedenii. Radiofizika (USSR) 1961, v. 4, no. 2, p. 244-252.

DESCRIPTORS: *Radio astronomy, Extraterrestrial radio waves, Low frequency, *Sun, Solar disturbances, *Solar flares.

Some results of the observation of solar radio emission on a series of fixed frequencies in the range of 10-25 mHz are shown. The observations were carried out in the summer seasons of 1959 and 1960. (Author)

Demidova, A. N.
STELLAR SCINTILLATION AT PULKOVO. 3 Dec 62 [20]p. 11 refs. FTD-TT-62-1430.
Order from OTS or SLA $1.60 63-15294

Unedited rough draft trans. of Astronomicheskaya Observatoriya [Pulkovo]. Izvestiya (USSR) 1960, v. 21, no. 6[165], p. 2-11.

DESCRIPTORS: *Stars, *Scintillation (Astronomy), *Telescopes, Optical phenomena, Atmospheric motion, Turbulence.

The results of observations of stellar scintillations on the AZT-7 telescope are stated. A law of the change in amplitude of scintillation is determined with zenith distance. It is indicated that the law varies, depending on the diameter of the inlet opening. A correlation has been found between the amplitude of scintillation and the quality of the stellar images. Data on the character of amplitude variation of scintillation with various apertures (from 30 mm to 200 mm) are introduced. The wavelength of density fluctuations in the effective turbulent layer of the atmosphere responsible for stellar scintillation is calculated for three nights of observations according to the Rosch theory. (Author)

Gorynya, A. A.
REVISION OF HARTWIG'S OBSERVATIONS OF THE MOON (1890-1915) TAKING INTO ACCOUNT THE LIBRATION EFFECT. 17 Jan 62 [6]p. 4 refs. FTD-TT-61-13; AD-270 776.
Order from OTS or SLA $1.10 62-15837

Unedited rough draft trans. of [Astronomicheskii Tsirkulyar] (USSR) 1960, no. 211, p. 14-16.

DESCRIPTORS: *Moon, Vibration, *Astronomical geodesics, Mathematical analysis.

Kachalov, V. P. and Yakovleva, A. V.
THE ULTRAVIOLET SOLAR SPECTRUM IN THE REGION 2470-3100 Å (Ul'trafioletovyi Spektr Solntsa v Oblast 2470-3100 Å) tr. by A. Pingell. 11 Jan 63, 46p. 12 refs. N R L Trans. no. 923.
Order from OTS $1.25 63-11572

Trans. of Akademiya Nauk SSSR. Krymskaya Astrofizicheskaya Observatoriya. Izvestiya, 1962, v. 27, p. 5-43.

DESCRIPTORS: *Solar spectrum, *Ultraviolet spectroscopy, Spectroscopy, Spectrographic data, Astrophysics.

The energy spectrum curve of the sun has been obtained from spectrograms taken at a height of about 100 km, the resolution being 0.15Å at 2700-3100 Å and 0.3 Å at 2470-2700 Å. The absolute energy is determined by comparison with a carbon arc crater radiation. The equivalent width of absorption by resonance lines of ionized magnesium is 66 Å at 2800 Å. A list is given of measured Fraunhofer lines, their identification and a visual estimate of intensity in the region 2632-2900 Å. (Author)

Kotlyar, L. M. and Vitinskii, Yu. I.
THE SOLAR MAGNETOGRAPH OF THE MAIN ASTRONOMICAL OBSERVATORY OF THE ACADEMY OF SCIENCES USSR, I [AND] SPECIAL ASPECTS OF THE LONGITUDINAL DISTRIBUTION OF SOLAR ACTIVITY. 3 Dec 62 [52]p. 17 refs. FTD-TT-62-585.
Order from OTS or SLA $5.60 63-15302

Unedited rough draft trans. of Astronomicheskaya Observatoriya, Pulkovo. Izvestiya (USSR) 1960, v. 21, no. 4[163] p. 73-87 and 96-105.

DESCRIPTORS: *Sun, Magnetic fields, Doppler shift, *Magnetometers, Potentiometers, Optical equipment, Photomultipliers, Circuits, *Solar disturbances, Periodic variations, *Sunspots, Mapping.

The working principle is described of a solar magnetograph operating on the same scheme as the similar Babcock instruments at Pasadena and Cambridge and at the Crimean Astrophysical Observatory. Unlike the Babcock instrument, the present instrument has automatic compensation for the Doppler shifts of the spectral lines; provision is also made for recording them. The procedure for adjusting and calibrating the instrument and taking observations is outlined. (Kotlyar) An isoline method is set forth for application to the construction of one-cycle synoptic maps of the Sun. It is shown that the subject method can be used successfully for recognition of active centers on the Sun. Special aspects of the longitudinal distribution of the various solar activity indices are discussed. The paper also considers the peculiarities of the recurrent groups that populate the Sun's active longitudes. (Vitinskiy)

Mandel'shtam, S. L., Vasil'ev, B. N. and others.
[INVESTIGATION OF SOLAR X-RADIATION]. III. RADIO ELECTRONIC EQUIPMENT (Issledovaniya Rentgenovskogo Solntsa. III. Radioelektronnaya Apparatura) tr. by A. Pingell. 10 Apr 62 [14]p. 2 refs. N R L Trans. no. 891.
Order from OTS or SLA $1.60 62-24796

Trans. of Akademiya Nauk SSSR. Fizicheskii Institut. Rept-A-133, 1961, 14p.

DESCRIPTORS: *Satellite vehicle research, *Solar radiation, *X-rays, Photons, Counting methods, *Radiation measurement systems, Electronic equipment, *Measuring devices (Electrical and electronic), Trigger circuits, *Telemeter systems.

See also 62-14227

Merman, G. A.
NEW CLASS OF PERIODIC SOLUTIONS IN THE RESTRICTED THREE-BODY PROBLEM AND HILL'S PROBLEM. [1962] [125]p. 6 refs.
Order from OTS or SLA $10.10 62-16112

Trans. of [Akademiya Nauk SSSR]. Inst[itut] Teoret[icheskoi] Astronomii. Trudy, 1952, v. 1, p. 5-86.
Another trans. is available from UCLA as Film QM 4 [1958].

DESCRIPTORS: *N-body problem, *Celestial mechanics, *Differential equations.

Mustel', E. R.
AN EXAMINATION OF THE ENVELOPE CREATED BY CORPUSCULAR EMISSION FROM THE STAR. Pt. 3 of the Problem of the Loss of Matter from Stationary Stars. [1962] [17]p. 7 refs.
Order from OTS or SLA $1.60 62-33412

Trans. of [Akademiya Nauk SSSR]. Krymskaya Astrofizicheskaya Observatoriya. Izvestiya (USSR) 1959, v. 21, p. 24-39.

DESCRIPTORS: Astrophysics, *Stars, *Interstellar matter, Nebulae.

Mustel', E. R.
METHODS OF STUDYING THE SECULAR LOSS OF MASS BY STARS OF EARLY SPECTRAL CLASSES. Pt. 2 of The Problem of the Loss of Matter from Stationary Stars. [1962] [13]p. 15 refs.
Order from OTS or SLA $1.60 62-33376

Trans. of [Akademiya Nauk SSSR]. Krymskaya Astrofizicheskaya Observatoriya. Izvestiya (USSR) 1958, v. 19 p. 153-164.

DESCRIPTORS: Astrophysics, *Stars, *Interstellar matter, Nebulae.

Ogorodnikov, K. F.
THE DYNAMICS OF STELLAR SYSTEMS [SELECTED PARTS]. [1962] [79]p. 2 refs. ACIC RR-50.
Order from OTS or SLA $7.60 63-13557

Trans. of mono. Dinamika Zvezdnykh Sistem, Moscow, 1958, p. 3-6, 492-514, 538-557, 583-594.

DESCRIPTORS: Dynamics, *Solar systems, Distribution, *Interstellar matter, Astronomy, Spheres, Rotation, *Galaxies, Ellipsoids, Nuclei, Rings, *Stars, *Celestial mechanics.

Contents:
Table of contents
Dynamics of spherical stellar systems
7. Distribution of stellar orbits. Lindblad and Bottlinger diagrams
8. Spherical systems with nonhomogenous stellar composition
Fundamentals of the dynamics of rotating stellar systems
6. Figures of equilibrium of D-galaxies
7. The formation of sharp edges in elliptical galaxies
8. Formation of central nuclei and the ring structure of galaxies
12. Most probable phase distribution for KL-systems

Pskovski, Yu. P.
DUST IN CIRCUMTERRESTRIAL SPACE, tr. by E. R. Hope. Feb 63, 8p. 1 ref. DSIS T 383 R.
Order from NRCC NRCC C-4306

Trans. of Priroda (USSR) 1962 [v. 51] no. 12, p. 68-73.

DESCRIPTORS: *Space environmental conditions, Particles, Gases, *Meteorites, *Sky brightness, Theory, Clouds, Satellites, Interstellar matter.

Stepanov, V. E. and Petrova, N. N.
THE BRIGHTNESS OF FLOCCULI, MAGNETIC FIELDS AND MECHANISMS OF HEATING (Yarkost' Flokkulov, Magnitnye Pola i Mekhanizmy Nagreva). Sep 62 [45]p. 29 refs. RTS 2110.
Order from OTS or SLA $4.60 62-32954

Trans. of [Akademiya Nauk SSSR]. Krymskaya Astrofizicheskaya Observatoriya. Izvestiya, 1959, v. 21, p. 152-179.

DESCRIPTORS: *Astrophysics, *Solar atmosphere, Sunspots, Solar flares, Brightness, Magnetic fields, Heating, Magnetohydrodynamics, Absorption.

Vitkevich, V. V.
WIDE-BAND RADIO INTERFEROMETER [Shirokopolosnyi Radiointerferometr]. [1961] 4p. 1 ref. MDF V-109.
Order from OTS $0.50 62-11611

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1953, v. 91, no. 6, p. 1301-1303.
Another trans. is available from SLA as R-3624.

DESCRIPTORS: Broadband, *Radio interferometers, Interferometers, Radio astronomy, Instrumentation.

Yakovkin, N. A.
AN ARTIFICIAL METEOR (Iskusstvennyi Meteor) tr. by A. Pingell. 4 Dec 62, 9p. 5 refs. N R L Trans. no. 922.
Order from OTS $0.50 63-11555

Trans. of [Mezhdunarodnyi Geofizicheskii God]. Informatsionnyi Byulleten' (USSR) 1960, no. 2, p. 37-42.

DESCRIPTORS: *Meteors, Brightness, Determination, Photography, Photometers.

Instruments for determining the brightness of meteors by a photographic method are described. Construction of new equipment used in the Astronomical Observatory of Kiev State University is discussed. The principal part of this apparatus is a freely swinging collimator with an assembly of artificial meteors. With the aid of light marks - the trace of one of the artificial meteors is interrupted 50 times per second - it is possible to determine the velocity of meteors on a photographic film. A method is offered for the photometrical evaluation of meteor traces, which eliminates almost completely the calculations of the light absorption in the earth atmosphere. (Author)

BEHAVIORAL SCIENCES

Personnel and Training

NEW HUNGARIAN DOCTORS AND CANDIDATES: MAY-JUNE 62. 6 Mar 63 [14]p. JPRS: 17979.
Order from OTS $0.50 63-21259

Trans. of Magyar Tudomany (Hungary) 1962, v. 7[69] no. 8, p. 527-529 and no. 9, p. 588-590.

DESCRIPTORS: *Scientific personnel, *Medical personnel, Personnel, Hungary, Education.

Keldysh, M. V. and Fedorov, E. K.
FROM THE ACADEMY OF SCIENCES USSR (NAMES OF CANDIDATES FOR ACADEMICIANS).
1 Oct 62 [16]p. JPRS: 15498.
Order from OTS or SLA $1.60 63-15932

Trans. from Izvestiya (USSR) 1962, 13 June, p. 3-4.

DESCRIPTORS: *Scientific personnel, Personnel, Education.

BIOLOGICAL SCIENCES

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 99 (BIOLOGY AND MEDICINE SERIES). 8 Mar 63 [19]p. JPRS: 18036.
Order from OTS $0.50 63-21286

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and Poland.

DESCRIPTORS: *Abstracts, Bibliography, Biology, *Medicine, Diseases, *Veterinary medicine, Poisoning, Meat, Nutrition, Microbiology.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 101 (BIOLOGY AND MEDICINE SERIES). 13 Mar 63 [37]p. JPRS: 18116.
Order from OTS $1.00 63-21315

Consists of abstracts of articles from the scientific and technical journals of Hungary and Poland.

DESCRIPTORS: *Abstracts, *Biology, *Medicine, *Hungary, *Poland.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 104 (BIOLOGY AND MEDICINE SERIES). 14 Mar 63 [31]p. JPRS: 18120.
Order from OTS $0.75 63-21319

Consists of abstracts of articles from the scientific and technical journals of Hungary.

DESCRIPTORS: *Abstracts, *Biology, *Medicine, *Hungary.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 105 (BIOLOGY AND MEDICINE SERIES). 18 Mar 63 [26]p. JPRS: 18163.
Order from OTS $0.75 63-21335

Consists of abstracts of articles from the scientific and technical journals of Hungary.

DESCRIPTORS: *Abstracts, *Biology, *Medicine, *Hungary, Veterinary medicine.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 110 (BIOLOGY AND MEDICINE SERIES). 20 Mar 63 [41]p. JPRS: 18250.
Order from OTS $1.00 63-21373

Consists of abstracts of articles from the scientific and technical journals of Bulgaria and Czechoslovakia.

DESCRIPTORS: *Abstracts, *Biology, *Medicine, Bulgaria, *Czechoslovakia.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 111 (BIOLOGY AND MEDICINE SERIES) 21 Mar 63 [52]p.
JPRS: 18256.
Order from OTS $1.50 63-21376

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia, Hungary, Poland, Rumania, and Yugoslavia.

DESCRIPTORS: *Abstracts, *Biology, *Medicine, *Czechoslovakia, *Hungary, *Poland, *Rumania, *Yugoslavia

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 50 (BIOLOGY SERIES). 26 Mar 63 [37]p. JPRS: 18364.
Order from OTS $1.00 63-21425

Trans. of selected abstracts from Referativnyi Zhurnal. Biologiya (USSR) 1962, nos. 20-22 and 24.

DESCRIPTORS: *Abstracts, *China, *Biology, Plants, Physiology, Animals, Pathology, Microbiology, Parasitology, Pharmacology, Toxicity.

BIOLOGICAL SCIENCES: TRANSLATIONS. 13 Mar 63 [38]p. 12 refs. JPRS: 18091.
Order from OTS $1.00 63-21308

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1962 [v. 27] no. 3, p. 317-333, 449-454, 473-476.

DESCRIPTORS: *Biology, Scientific organizations, *Insects, Decomposition, *Wood, Conferences.

Contents:
Scientific achievements by establishments of the Department of Biological Sciences (Academy of Sciences USSR) and their introduction into practice, by N. M. Sisyakan
Succession of insects and other [in]vertebrates in spruce wood and their role in windfall and felling litter decay, by E. F. Kozarzhevskaya and B. M. Mamaev
Annual general meeting of the Department of Biological Sciences, Academy of Sciences USSR, by T. N. Shcherbinovskaya.

SOVIET CONFERENCES ON BIOLOGY. 22 Mar 63 [20]p. JPRS: 18280.
Order from OTS $0.50 63-21385

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1962 [v. 27] no. 6, p. 935-940 and 948-950.

DESCRIPTORS: *Conferences, *Biology, Biochemistry, *Electron microscopy.

Contents:
Conference on electron microscopy, by A. N. Studitskii
At a session of the general assembly of the Biological Sciences Section, Academy of Sciences USSR, by V. G. Kocherezhkin.

Arutyunyan, N. P.
PRODUCTION BASES FOR THE DEVELOPMENT OF UNICELLULAR ALGAE. 1 Feb 63 [15]p. 27 refs. JPRS: 17433.
Order from OTS $0.50 63-21044

Trans. of Akademiya Nauk Armyanskoi SSR, Erevan. Izvestiya. Biologicheskie Nauki, 1962, v. 15, no. 11, p. 85-93.

DESCRIPTORS: *Algae, Growth, Culture media, Temperature, Light, Energy, Atmosphere, *Carbon dioxide, Contamination, Biosynthesis.

Each of the following factors is discussed: (1) the effectiveness of the manner of the utilization of light-energy, (2) the composition of the liquid environment of the culture, (3) the atmosphere of the environment and its increased proportion of carbon dioxide, (4) the regulation of the critical temperature of the environment.

Castoldi, Luigi.
ON THE DISTRIBUTION OF EXTINCTION TIMES IN BIOLOGICAL DESCENTS. [1962] 11p. 3 refs.
Order from SLA $1.60 62-20228

Trans. of Unione Matematica Italiana. Bollettino, 1956, ser. 3, v. 11, p. 158-167.

DESCRIPTORS: Distribution, *Evolution, Survival, *Animals, Probability, *Mathematical prediction.

The behaviour of the average number of generation for extinction ("Average time of extinction") of the male offsprings from a progenitor is determined with respect to the mean value $\underline{m}$ of the distribution of the number of offsprings in the first generation. An attempt is made to prove that such an average time is finite for $m<1$, and infinite for $m \geq 1$. The same alternatives hold for the variance and for the successive moments of the number of generations for extinction. (Author)

Imshenetskii, A. A.
EXOBIOLOGY: A NEW FIELD OF SCIENTIFIC RESEARCH. 11 Mar 63 [13]p. JPRS: 18044.
Order from OTS $0.50 63-21289

Trans. of Akademiya Nauk SSSR. Vestnik, 1962, v. 32, no. 11, p. 58-63.

DESCRIPTORS: *Exobiology, *Space biology, *Microorganisms, Space environmental conditions.

Includes discussions on possible modes of discovering life in space and on the influence of cosmic space on microorganisms.

Khil'mi, G. F.
PHILOSOPHICAL QUESTIONS OF THE TRANSFORMATION OF NATURE. 11 Mar 63 [16]p. JPRS: 18046.
Order from OTS $0.50 63-21294

Trans. of Voprosy Filosofii (USSR) 1962 [v. 16] no. 12, p. 57-62.

DESCRIPTORS: *Ecology, *Philosophy, Transformations, Energy conversion.

Lanyi, Gyorgy.
THE NATIONAL SESSION OF BIOLOGISTS (NO. 5). 26 Feb 63 [7]p. JPRS: 17823.
Order from OTS $0.50 63-21209

Trans. of Termeszettudomanyi Kozlony (Hungary) 1962, v. 6, no. 11, p. 526-527.

DESCRIPTORS: *Conferences, *Biology, Agriculture, Scientific reports.

Metlitskii, L. V. and Kas'yan, I. I.
BIOCHEMICAL ASPECTS OF THE RADIATION METHOD OF PRESERVING FOOD PRODUCTS [AND] SOME HUMAN PHYSIOLOGICAL REACTIONS UNDER CONDITIONS OF ALTERNATING OVERLOADS AND WEIGHTLESSNESS. 12 Feb 63 [43]p. 47 refs. JPRS: 17591.
Order from OTS $1.50 63-21112

Trans. of Akademiya Nauk SSSR. Izvestiya. [Seriya Biologicheskaya] 1962 [v. 27] no. 6, p. ##869-884 and 896-908.
##Another trans. is available from OTS $1.00 as 63-21078, JPRS-17530, 7 Feb 63 [39]p.

DESCRIPTORS: Biochemistry, *Preservation, *Food, *Radiation effects, *Adaptation (Physiology), *Weightlessness, Space medicine, Bioelectronics, Respiration, Blood pressure, Cardiovascular system

Monchadskii, A. S.
THE CONCEPT OF FACTORS IN ECOLOGY, tr. by N. F. C. Owen. Nov 61 [5]p. 2 refs. [DSIR] NLL M. 8859.
Order from OTS or SLA $1.10 62-32829

Trans. of Zoologicheskii Zhurnal (USSR) [1961] v. 40, no. 9, p. 1299-1303.

DESCRIPTORS: *Ecology, *Adaptation (Physiology), Behavior.

Monchadskii, A. S. and Burmakin, E. V.
THE CONCEPT OF FACTORS IN ECOLOGY [AND] SOME PROBLEMS IN THE THEORY OF ACCLIMATIZATION OF FRESH-WATER FISH. 13 Mar 63 [44]p. 17 refs. JPRS: 18085.
Order from OTS $1.25 63-21304

Trans. of Zoologicheskii Zhurnal (USSR) 1961, v. 40, no. 9, p. ##1299-1303 and 1384-1394.
##Another trans. is available from OTS or SLA $1.10 as 62-32829, DSIR NLL M.8859, Nov 61 [5]p.

DESCRIPTORS: *Adaptation (Physiology), Behavior, *Fishes, Food, Morphology, Reproduction, Survival, Marine biology, *Ecology

Parin, V. V.
THE BIRTH OF COSMIC BIOLOGY. 14 Mar 63 [6]p. JPRS: 18125.
Order from OTS $0.50 63-21321

Trans. of Priroda (USSR) 1962, v. 51, no. 10, p. 9-11.

DESCRIPTORS: *Space biology, Space medicine, Space environmental conditions, Weightlessness.

Parin, V. V.
COSMOS -- EARTH. 21 Jan 63, 8p. FTD-TT-62-1609.
Order from OTS or SLA $1.10 63-15529

Unedited rough draft rrans. of Ogonek (USSR) 1961 [v. 39] no. 17, p. 26-27.

DESCRIPTORS: *Space flight, *Space biology, Plants, Neoplasms, Genetics.

A nontechnical review of Soviet space biology experiments.

Parin, V. V.
HOW THE FLIGHT WAS READIED. 18 Jan 63, 8p. FTD-TT-62-1608.
Order from OTS or SLA $1.10 63-15525

Unedited rough draft trans. of Zdorov'e (USSR) 1961 [v. 7] no. 6, p. 4-5.

DESCRIPTORS: *Space flight, *Space biology, Space medicine, Space environmental conditions, Telemeter systems, *Astronauts, Training.

An account on medical and biological experiments, performed in preparation for the Soviet manned space flight program.

Parin, V. V.
MAN AND THE COSMOS. 16 Jan 63, 5p. FTD-TT-62-1605.
Order from OTS or SLA $1.10 63-15511

Unedited rough draft trans. from Sovetskaya Litva (USSR) 1961, 31 Mar, p. 4.

DESCRIPTORS: *Space flight, *Space biology, Space environmental conditions, *Telemeter systems, Television communication systems.

Tolmasskaya, E. S. and Dykman, L. M.
THE ROLE OF THE RETICULAR FORMATION IN TRANSMITTING VISCERAL IMPULSES. [1962] [20]p. 34 refs. FASEB manuscript no. S 15-2.
Order from OTS or SLA $1.60 63-15425

Trans. of #Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1962, v. 12, no. 1, p. 161-168.

DESCRIPTORS: Brain, *Neuromuscular transmission, Stimulation, Bioelectronics, *Cerebral cortex, Adaptation (Physiology), Ganglia, Thalamus, Stomach.

Visceral stimulation (distention of the stomach) in rabbits causes much greater changes in electrical activity in the reticular formation than in specific structures. After visceral stimulation, the reticular formation very often exhibits a retardation of the rhythm of the electrical oscillations and an increase in their amplitude; meanwhile, desynchronization of electrical activity takes place in the cortex. Low and moderate doses of chlorpromazine (0.3 to 5 mg/kg) nullify the cortical component of the electrographic reaction to visceral stimulation. Simultaneous changes in response to such stimulation occur regularly in the reticular formation of the pons, hypothalamus, hippocampus, and motor and orbital regions of the cortex; and these may be considered as a functional system associated with the response to visceral stimuli. Analysis of our data indicates that there is a close connection between the reticular formation (chiefly of the pons and midbrain), the limbic system, and the anterior cortex. (Author)

Vinberg, G. G. and Vashchenko, D. M.
THE ENERGY PRINCIPLE IN THE STUDY OF TROPHIC RELATIONS AND THE PRODUCTIVITY OF ECOLOGICAL SYSTEMS [AND] THE INFLUENCE OF THE PIKE ON CARP STOCKS IN KREMENCHUG RESERVOIR. 1 Mar 63 [28]p. 49 refs. JPRS: 17906.
Order from OTS $0.75 63-21238

Trans. of Zoologicheskii Zhurnal (USSR) 1962, v. 41, no. 11, p. 1618-1630 and 1749-1751.

DESCRIPTORS: *Energy, Biology, Production, Ecology, Mathematical analysis, *Mathematical prediction, *Parabiosis, *Fishes, Carp, Marine biology.

Anatomy and Physiology

Asmussen, Erling and Christensen, E. H[ohwü].
INFLUENCE OF THE BLOOD DISTRIBUTION UPON THE CIRCULATION DURING PHYSICAL EXERCISE (Einfluss der Blutverteilung auf den Kreislauf bei Köperlicher Arbeit). [1962] 7p. (figs. omitted) 4 refs.
Order from OTS or SLA $1.10 62-20465

Trans. of Skand[inavisches] Arch[iv] f[ür] Physiol[ogie] (Germany) 1939, v. 82 [no. 3/4] p. 185-192. Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 59-18225, 2 July 59 [10]p.

DESCRIPTORS: Blood, Distribution, *Exercise, *Blood circulation, Blood volume, Temperature.

During arm exercise in sitting position it was demonstrated that variations in the peripheral distribution of blood may influence the circulation to a great extent. With abundant filling of the central vessels (ischemic legs), the cardiac minute volume is relatively high and the pulse rate low. With lesser filling (pooling in lower extremities) the minute volume is small (lowered about 30%) and the pulse rate is elevated. High pulse rate in these experiments and also during work in elevated enviromental temperatures is regarded as a compensating mechanism for a low, central venous pressure. It is assumed that the elevated pulse frequency and the (small) low cardiac output are parameter of a limited circulatory accommodation capacity. (Author)

Burdz, B. I.
LENGTH OF PREGNANCY AND DATE OF DELIVERY WHEN TIME OF CONCEPTION IS KNOWN (O Prodolzhitel'nosti Beremennosti i Sroke Rodov pri Izvestnom Vremeni Zachatiya). [1962] 5p. NIH no. 7-56-62.
Order from OTS or SLA $1.10 62-32587

Trans. of Sovetskaya Meditsina (USSR) 1940, v. 4, no. 20, p. 13-14.

DESCRIPTORS: *Pregnancy, *Birth, Determination.

The apparent length of pregnancy (time from first day of last menses to date of delivery) is far greater when conception occurs in the second half of the menstrual cycle. The statement, that from the 11th day before the expected regular menses and later, conception is impossible, should be rejected. In the majority of cases conception occurs in the interval of time which corresponds to the fertile period according to the scheme of Knaus or Ogino. In cases of conception in the second half of the menstrual cycle, objective signs of various terms of pregnancy accumulate in accordance with the date of the start of the sexual life and not the date of the last menses. (Author)

Kocherga, D. A.
ALL-UNION CONFERENCE ON THE PROBLEM OF THE PHYSIOLOGY AND PATHOLOGY OF RESPIRATION, KUIBYSHEV, 1-6 OCT 61. 16 Aug 62 [8]p. JPRS: 14869.
Order from OTS or SLA $1.10 62-32463

Trans. of Fiziologichnyi Zhurnal (USSR) [1962] v. 8, no. 1, p. 139-142.

DESCRIPTORS: *Conferences, Physiology, Pathology, *Respiration

Kogan, A. B.
A COMPLEX STUDY OF ELECTROPHYSIOLOGICAL, HISTOCHEMICAL, AND CYTOMORPHOLOGICAL INDICES OF BRAIN NEURON EXCITATION. 19 Feb 63 [10]p. 8 refs. JPRS: 17717.
Order from OTS $0.50 63-21167

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 4, p. 985-988.

DESCRIPTORS: *Bioelectronics, Cytochemistry, *Brain, *Nerve cells, Morphology, Biochemistry, Measurement.

Kovalenko, E. A.
THE EFFECT OF HIGHLY RAREFIED ATMOSPHERE ON OXYGEN TENSION IN BRAIN TISSUE. [1962] [25]p. 18 refs. FASEB manuscript no. S 2-2.
Order from OTS or SLA $2.60 63-15428

Trans. of #Fiziologicheskii Zhurnal SSSR, 1962, v. 48, no. 2, p. 150-158.
Another trans. is available from OTS or SLA $1.60 as 62-20306 [1962] [16]p.

DESCRIPTORS: *Oxygen, *Brain, *High altitude, Atmosphere, Anoxia.

Seventeen to twenty-five seconds after dogs are exposed to an "altitude of 15,000 m, muscles relax, position reflexes are lost, and collapse ensues; after 55 to 105 sec complete respiratory standstill sets in, indicating the outermost limit of time that the animals can remain at the "altitude" before irreversible changes take place. Oxygen tension in brain tissue under these circumstances decreases sharply, quickly reaching an average of one-third the original level in the cerebral cortex and one-fifth in the subcortex. After a second ascent to an "altitude" of 15,000 m there is sometimes a relative lengthening of the time until complete respiratory standstill. The degree of brain tissue deoxygenation with local measurement of oxygen tension at the tips of platinum electrodes inserted into the brain does not always strictly correlate to severity of hypoxic disorders observed while at an "altitude" of 15,000 m. (Author)

Lipovetskaya, E. I.
THE EFFECT OF AMINAZINE ON SOME ASPECTS OF ASCORBIC ACID AND ADRENALIN METABOLISM IN ANIMALS CAPABLE AND INCAPABLE OF SYNTHESIZING VITAMIN C. [1962] [8]p. 8 refs. FASEB manuscript no. S 32-2.
Order from OTS or SLA $1.10 63-15422

Trans. of Voprosy Pitaniya (USSR) 1962, v. 21, no. 2, p. 81-84.

DESCRIPTORS: Drugs, *Chlorpromazine, *Ascorbic acid, *Metabolism, *Epinephrine, Synthesis, Autonomic agents.

This research indicates that the metabolism of ascorbic acid and adrenalin is regulated both by the peripheral nervous system and by the higher divisions of the central nervous system. (Author)

Lozina-Lozinskii, L. K.
THE RESISTANCE OF INSECTS TO ULTRA-LOW TEMPERATURES. 19 Mar 63 [7]p. 3 refs. JPRS: 18218
Order from OTS $0.50 63-21361

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 5, p. 1247-1249.

DESCRIPTORS: Resistance, *Insects, *Freezing, Hypothermia, *Adaptation (Physiology), Ecology, Genetics.

Details are given of experiments involving the recovery of viable corn borer caterpillars following freezing at temperatures as low as -196°C.

Monasterio, G.
THE BEHAVIOR OF VARIOUS SPIROGRAPHIC INDICES, IN NORMAL CONDITIONS UNDER INFLUENCE OF NICOTINE. [1962] 13p.
Order from K-H $16.25 K-H 10481c

Trans. of G[iornale di] Clin[ica] Med[ica] (Italy) 1960, v. 41, p. 76-84.

DESCRIPTORS: *Nicotine, *Respiration, Behavior.

Pavlov, I.
GENERAL TECHNIQUE OF PHYSIOLOGICAL EXPERIMENTATION AND VIVISECTION. I. GENERAL ASPECTS OF PHYSIOLOGICAL OPERATIONS. [1962] 15p.
Order from SLA $1.60 62-20165

Trans. of mono. Handbuch der Physiologischen Methodik, ed. [by] Robert Tigerstedt, Leipzig, 1911, v. 1, p. 1-8.

DESCRIPTORS: *Laboratory animals, *Surgery, *Physiology, Medical research.

Biochemistry

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 51 (BIOCHEMISTRY SERIES) 26 Mar 63 [7]p. JPRS: 18379.
Order from OTS $0.50 63-21430

Trans. of selected abstracts from Referativnyi Zhurnal. [Khimiya]. Biologicheskaya Khimiya (USSR) 1962, no. 19.

DESCRIPTORS: *Abstracts, *China, *Biochemistry, *Microorganisms, Viruses, Antibiotics, Immunity, *Plants, *Pharmacology, Toxicity.

BIOCHEMISTRY: TRANSLATIONS. 19 Mar 63 [12]p. 19 refs. JPRS: 18213.
Order from OTS $0.50 63-21359

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. [illegible], p. 951-957.

DESCRIPTORS: *Biochemistry, *Free radicals, *Radiation effects, Lipids, *Liver, Light, Signals, *Paramagnetic resonance, *Chlorophylls, Infrared spectroscopy.

Contents:
Free radicals in rat liver lipids under normal conditions and at various periods following gamma-radiation, by I. K. Kolomiitseva and others
Light-induced EPR signals in crystalline chlorophyll and its infrared spectra, by V. E. Kholmogorov and others.

Baichikov, A. G., Barmenkov, A. S., and Eroshin, V. K.
MICROORGANISMS IN THE BIOSYNTHESIS OF STEROIDS. [1963] 18p.
Order from ATS $21.65 ATS-45P66R

Trans. of Med[itsinskaya] Prom[yshlennost'] SSSR, 1959 [v. 13] no. 6, p. 15-31.

DESCRIPTORS: *Steroids, *Biosynthesis, *Microorganisms.

Bronovitskaya, Z. G. and Gershenovich, Z. S.
ENZYMATIC SYNTHESIS OF GLUCOSAMINE IN THE BRAIN DURING HYPEROXIA. [1962] [1]p.
Order from OTS or SLA $1.10 62-20316

Partial trans. (summary) of [Ukrayins'kyi Biokhimichnyi Zhurnal] (USSR) 1962, v. 34, no. 1, p. 81-85.

DESCRIPTORS: *Enzymes, Synthesis, *Glucose, *Amines, *Brain, *Oxygen poisoning, Phosphates.

The glucosamine content in the grey matter of the brain in rabbits proved to be unaltered after keeping the animals under conditions of pure oxygen pressure of 6 atm. Enzymatic synthesis of glucosamine from glucoseo-6-phosphate and glutamine was found in the brain of rats. Incubation of the enzymatic system in the course of two hours at an oxygen pressure of 6 atm. lowers its activity by 24%. An assumption is made that inhibition of the aminoferase activity of the brain is one of the links in the disturbance of the ways utilizing glucose and ammonia in oxygen intoxication. "Report quoted in its entirety."

Delva, V. A.
CHEMICAL TOPOGRAPHY OF ALUMINUM IN THE CEREBRAL CORTEX IN RELATION TO ITS CYTOARCHITECTONICS. [1962] [2]p.
Order from OTS or SLA $1.10 62-20363

Partial trans. (table and fig. only) of Vrachebnoe Delo (USSR) 1961, no. 10, p. 113-115.

DESCRIPTORS: Distribution, *Aluminum, *Cerebral cortex, Cytochemistry.

Delva, V. A.
MANGANESE CONTENT IN DIFFERENT SECTIONS OF THE HUMAN CEREBRAL CORTEX. [1962] [2]p.
Order from OTS or SLA $1.10 62-20364

Partial trans. (table and fig. only) of Voprosy Meditsinskoi Khimii (USSR) 1961, v. 7, no. 5, p. 465-467.

DESCRIPTORS: *Manganese, Brain, Man, *Cerebral cortex, Cytochemistry.

Fernandez, O. and Lara, Maria Dolores.
CHEMICAL PHYLOGENY OF LIGNIN. [VII]. ANALYSIS OF THE SHELL OF THE FRUIT OF ARACHIS HYPOGEA (PEANUT) (Filogenia Quimica de la Lignina. (VII). Analisis de la Cubierta del Fruto de Arachis Hipogea (Cacahuet)). [1961] [11]p. 9 refs.
Order from SLA $1.60 61-20550

Trans. of [R.] Acad[emia] de Cienc[ias] Exac[tas] Fis[icas] y [Naturales de] Madrid. Rev[ista] (Spain) 1956, v. 50, no. 1, p. 135-140.

DESCRIPTORS: *Lignin, *Evolution, Ethyl radicals, Tanic acids, Chemical analysis, *Plants (Botany), *Fruits.

Kocherga, V. I. and Skvirskaya, E. B.
ISOLATION OF NUCLEIC ACIDS FROM THE BRAIN BY THE PHENOL METHOD. [1962] [1]p.
Order from OTS or SLA $1.10 62-20318

Partial trans. (summary) of [Ukrayins'kyi Biokhimichnyi Zhurnal] (USSR) 1962, v. 34, no. 1, p. 40-46.

DESCRIPTORS: Separation, *Nucleic acids, *Brain, *Phenols, Polymers.

The phenol method was employed to indicate various RNA fractions. Three fractions are obtained: fraction I - water-soluble RNA, not precipitated by a 1.5 molar solution of NaCl (low polymer); fraction II - water-soluble, precipitated by a 1.t molar solution of NaCl (high polymer); fraction III - RNA remaining bound with the protein on treatment with phenol (chiefly nuclear). During the process certain peculiarities of RNA isolation from the brain were noted, consisting in the fact that with all pH values of phenol, the isolation of low polymer RNA, in distinction to the same fraction isolated from other tissues, is accompanied by DNA impurities. The optimal conditions of the medium for isolating various RNA fractions from the brain proves to be those where the pH of phenol equals 4.8-4.9. "Report quoted in its entirety."

Kouzmina, S. N.
ON THE STRUCTURE OF A LIPOPROTEIN OF BRAIN WHITE MATTER. [1962] [1]p.
Order from OTS or SLA $1.10 62-20321

Partial trans. (summary) of Voprosy Med[itsinskoi] Khimii (USSR) 1962, v. 8, no. 3, p. 238-241.

DESCRIPTORS: *Lipoproteins, *Brain, Tissues (Biology), Cytochemistry, Cholesterol, Phospholipids, Nucleoproteins.

A lipoprotein from white matter of bovine brain was studied. The lipoprotein contained nucleoproteins and phosphate-containing proteins. From 91 to 100 per cent of cholesterol and 50 to 58 per cent of phosphatides were bound with the nucleoprotein. Cholesterol was bound with the protein by means of phosphatides. On extraction with ether 76-83 per cent of cholesterol were split off during 90 minutes. In presence of sodium oleinate or sodium glycocholate 100 per cent of cholesterol were found to be split off by ether extraction. Lipids increased the nucleoprotein stability towards hydrochloric acid. "Report quoted in its entirety."

Madaeva, O. S., Ruzhentseva, A. K. and others.
PAPER CHROMATOGRAPHY AND SPECTROPHOTOMETRY IN STEROID ANALYSIS. [1963] 9p.
Order from ATS $14.75 ATS-48P66R

Trans. of Med[itsinakaya] Prom[yshlennost'] SSSR, 1958, v. 12, no. 3, p. 9-16.

DESCRIPTORS: *Steroids, Spectrophotometers, Paper chromatography, Analysis.

Petrov, I. R., and Filatov, A. N.
SYNTHETIC COLLOIDAL SOLUTIONS USED AS PLASMA SUBSTITUTES (Sinteticheskie Kolloidnye Plazmozameshchaioushchie Rastvory) tr. by Tatiana Boldyreff. 28 Sep 62, 54p. (figs. omitted).
Order from OTS $5.60 62-33363

Trans. of mono. Plazmozameshchaioushchie Rastvory (Plasma Substitute Solutions) Leningrad, 1958, chap. 9.

DESCRIPTORS: *Colloids, *Plasma substitutes, Dextran, Polyvinyl alcohol, Pyrroles, Vinyl radicals, Methyl cellulose.

A survey of the literature.

Pierzchalski, Tadeusz.
CHANGES IN GLYCOALKALOID CONTENTS IN LEAVES OF CULTIVATED AND WILD POTATOES AND THEIR HYBRIDS DURING GROWTH AND THEIR INFLUENCE ON THE COLORADO POTATO BETTLE (LEPTINOTARSA DECEMLINEATA SAY) (Zmiany Stezen Glikoalkaloidow w Lisciach Ziemniakow Uprawnych, Dzikich i Ich Mieszancow w Czasie Wzrostu Oraz Ich Wplyw na Stonke Ziemniaczana) tr. by D. Lachert. 1962 [18]p. 19 refs. PL-48C Agr.
Order from OTS $0.50 61-31268

Trans. of Hodowla Roslin, Aklimatyzacja i Nasiennictwo (Poland) 1957, v. 1, no. 3, p. 415-430.

DESCRIPTORS: *Alkaloids, Determination, *Plants (Botany), *Potatoes, *Insects, *Coleoptera, Growth, Ecology.

Glycoalkaloid contents underwent changes involving the entire plant during vegetation and attained their maximum during flower setting. Glycoalkaloid contents were higher in the entire leaf mass during growth, then dropped and reached the lowest value in the final stage. Glycoalkaloid content in leaves differed depending on the level from which specimens were collected. The highest contents were in the top leaves, the lowest in the bottom ones. Glycoalkaloid contents in leaves of specified levels were not constant and underwent changes during vegetation. Potato beetle larvae fed with leaves of specified levels during the entire vegetative period of the plant did not develop uniformly. One of the reasons why changes arose in the rate of development of the potato beetle larvae may have been the changes arising in the glycoalkaloid content. Glycoalkaloid contents in potato tubers of young potatoes were high and dropped as the tubers became set. (Author)

Polyakova, N. M., and Lishko, V. K.
ISOLATION AND PURIFICATION OF BRAIN PROTEINASE (Vidilennia i Ochistka Proteinazi Golovnogo Mozku). 17 Dec 62, 9p. 6 refs. NIH no. 12-17-62.
Order from OTS or SLA $1.10 63-15577

Trans. of Ukrayins'kyi Biokhimichnyi Zhurnal (USSR) 1962, v. 34, no. 2, p. 208-216.
Another trans. is available from OTS or SLA $1.10 as 62-20310 [1962] [1]p.

DESCRIPTORS: Cytochemistry, *Brain, Microsomes, Cells (Biology), *Proteases, *Chromatographic analysis, Fractionation, Ion-exchange, Peptide hydrolases.

Investigations carried out with the method of isolation and purification of brain proteinase revealed the one with which the best results can be obtained at a time when acetone powder of the brain is used as initial product and when purification is carried out by fraction partition of the proteins with acetone from ion-exchange chromatography, on diethylaminoethyl cellulose. At the use of this method, brain proteinase was purified 160-fold. (Author)

Purmal', A. P.
RADIOSPECTROSCOPY IN BIOCHEMISTRY AND STRUCTURAL CHEMISTRY. 27 Sep 62 [6]p. JPRS: 15466.
Order from OTS or SLA $1.10 63-15931

Trans. of Akademiya Nauk SSSR. Vestnik, 1961 [v. 31 no. 12, p. 98-100.

DESCRIPTORS: *Conferences, *Spectroscopy, *Paramagnetic resonance, *Biochemistry, Free radicals, Molecular structure, Biophysics.

Timofeeva, A. G., Madaeva, O. S. and others.
THE HYDROXYLATION OF PROGESTERONE TO 11a-HYDROXY-PROGESTERONE USING RHIZOPUS NIGRICANS. [1963] 9p.
Order from ATS $12.00 ATS-50P66R

Trans. of Akad[emiya] Nauk SSSR. Izv[estiya]. Ser[iya] Biol[ogicheskaya] 1958 [v. 23] no. 6, p. 712-718.

DESCRIPTORS: Hydroxides, *Progesterone, *Molds, Biochemistry.

Vogtl Beekmann, H.
THE RELATIONSHIP BETWEEN COLORLESS POLYENES AND CAROTENOIDS. [1962] 9p.
Order from K-H $11.25 K-H 5526 b

Trans. of Zeitschrift für Botanik (West Germany) 1956, v. 44, p. 289-296.

DESCRIPTORS: *Ethylenes, Polymers, *Plant pigments, *Carotenoids.

Botany

SOVIET STUDIES ON THE CAROTENE POTENTIAL OF THE ALGA DUNALIELLA SALINA. 28 Feb 63 [23]p. 27 refs. JPRS: 17881.
Order from OTS $0.75 63-21230

Trans. of Ukrayins'kyi Botanichnyi Zhurnal (USSR) 1961, v. 18, no. 4, p. 100-112.

DESCRIPTORS: *Carotene, *Algae, Pigments, *Sea water, Marine biology, Biosynthesis.

Contents:
Dunaliella salina Teod., a carotene-containing alga from saline waters of the Crimea, by N. P. Masyuk
Dunaliella salina Teod., as an algal source of Beta-carotene, by I. H. Drokova.

Andreicheva, M. and Bailov, D.
THE ACCUMULATION OF CHLOROGENIC ACID IN SOME TYPES OF TOBACCO OF THE VARIETY N. TABACUM DURING DIFFERENT STAGES OF THE DEVELOPMENT OF PLANTS. [1962] 11p.
Order from K-H $13.75 K-H 11627-a

Trans. of Bulgar[skaya] Akad[emiya na] Nauk[ite]. Tsentral[en] Nauch[noizsledovatelski] Inst[itut po] Rastenievudstvo. Izvest[iya] 1961, v. 10, p. 27-38.
Another trans. is available from SLA $1.60 as 62-18831 [1962] 14p.

DESCRIPTORS: *Chlorogenic acids, *Tobacco, Growth, Age, Plants.

Medical Specialties and Equipment

A PORTABLE APPARATUS FOR ELECTROSLEEP THERAPY. [1961] [14]p.
Order from OTS or SLA $1.60 63-15751

Trans. of mono. (pamphlet) Apparat dlya Lecheniya Elektrosonom Portativnii, Moscow, 1959, p. 3-11.

DESCRIPTORS: *Medical equipment, *Electrosleep, Therapy, Electroencephalography.

The apparatus is a generator of low frequency pulse current which is intended for conducting electrosleep. The principle of producing sleep with the help of pulse current of low frequency and power is based on the action of the latter as a rhythmic irritant of the nerve cells of the cerebral cortex. This action, produces a general retardation which becomes sleep. In order to obtain the action of the pulse current on the brain, electrodes are placed in the area of the eye sockets and the mammillae. The negative pole (-) is attached to the eye electrodes and the positive pole (+) is attached to the occipital electrodes. The apparatus makes it possible to use pulse current together with the constant component. (Author)

Golikova, A. and Kas'yan, I.
BEFORE THE LEAP TO THE STARS. 21 Dec 62, 8p. FTD-TT-62-1767.
Order from OTs or SLA $1.10 63-15556

Unedited rough draft trans. of Ogonek (USSR) 1962 [v. 40] no. 34, p. 4-5.

DESCRIPTORS: *Astronauts, Training, *Weightlessness, Physiology, Positioning reactions, Food.

A popularized account of the USSR cosmonaut training program, with special attention to the problems of weightlessness.

Sisakyan, N. M. and Yazdovskii, V. I., eds.
RESULTS OF POSTFLIGHT MEDICAL EXAMINATIONS OF G.S. TITOV. 19 Dec 62, 12p. AID rept. 62-204.
Order from OTS or SLA $1.60 63-15320

Abstract trans. of mono. Pervye Kosmicheskie Polety Cheloveka (First Space Flights of Man) Moscow, 1962, p. 125-153.

DESCRIPTORS: *Space medicine, *Astronauts, *Medical specialties, Cardiography, Electroencephalography.

Microbiology

Agadzhanyan, N. and Akulinichev, I.
COSMIC BIOTELEMETRY. 19 Jan 63. 9p. FTD-TT-62-1908.
Order from OTS or SLA $1.10 63-15532

Unedited rough draft trans. of Tekhnika Molodezhi (USSR) 1962 [v. 30] no. 9, p. 25-26.
Another trans. is available from OTS or SLA $1.60 as 63-13505, JPRS-16600, 10 Dec 62 [12]p.

DESCRIPTORS: *Space flight, *Space medicine, Space communication systems, *Telemeteter systems.

For Abstract See Technical Translations 9: 390, 1963.

Telitchenko, M. M., Davydova, N. V., and Fedorov, V. D.
THE INTERRELATION OF ALGAE AND MICROORGANISMS. II. EFFECT OF GROWING CULTURES OF PROTOCOCCAL ALGAE CHLORELLA VULGARIS AND SCENEDESMUS OBLIQUUS ON THE SURVIVAL RATE OF THE CAUSATIVE AGENT OF MOUSE TYPH[OID] SALMONELLA THYPHIMURIUM. 13 Mar 63 [12]p. 12 refs. JPRS: 18092.
Order from OTS $0.50 63-21309

Trans. of Nauchnye Doklady Vysshei Shkoly. Biologicheskie Nauki (USSR) 1962, no. 4, p. 157-163.

DESCRIPTORS: *Algae, *Microorganisms, Ecology, Biosynthesis, Bacteria, *Salmonella, *Metabolic products, Reproduction, Growth, Inhibition, *Bactericides.

Algologically and bacteriologically pure cultures of protococcal algae Chlorella vulgaris and Scenedesmus obliquus during the multiplication process release into the medium compounds showing antibacterial properties in regard to the bacteria of the group Salmonella thyphimurium. The antibacterial properties of the compounds produced by the S. obliquus alga, in relation to the S. thyphimurium strains studied, are pronounced, apparently more strongly than for the compounds produced by the alga Ch. vulgaris. (Author)

Pathology

COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY TRANSLATIONS NO. 22. 14 Mar 63 [14]p. JPRS: 18138.
Order from OTS $0.50 63-21327

Trans. from Kuang Ming Jih Pao (Chinese People's Republic) 1963, 17 Jan, p. 2; and Jen Min Jih Pao (Chinese People's Republic) 1963, 24 Jan, p. 5.

DESCRIPTORS: *Scientific research, *China, Rural areas, *Parasites, *Diseases, Countermeasures, Hemosporidia, Encephalitis viruses, Schistosoma, Trematodes, Parasitic infections, Plants, *Growth substances.

Contents:
Scientific basis for the eradication of parasitic diseases in agricultural communities, by Chen Hsin-tao
The development of research on gibberellin, by Wu T'ing.

HERALD OF THE ACADEMY OF SCIENCES, 1962, VOL. 17, NO. 2: SELECTED ARTICLES. 4 Mar 63 [101]p. 144 refs. JPRS: 17930.
Order from OTS $2.25 63-21241

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1962, v. 17, no. 2, p. 3-62.

DESCRIPTORS: *Influenza virus, *Vaccines, Climatic factors, Adaptation (Physiology), Toxicity, *Diseases, Cardiovascular system, Communicable diseases, *Liver viruses, Epidemiology, *Diphtheria, Diagnosis, Immunity, Corynebacterium, *Immunology.

Contents:
Seasonal variations in reactivity to living influenza vaccines, by V. M. Zhdanov and V. V. Ritova
Pathophysiological studies of the mechanism of the toxic effect of the influenza virus, by T. A. Alekseeva
Some results of study of circulatory disorders in influenza, by N. V. Sergeev and F. L. Leites
Methods of studying infectious hepatitis, by I. L. Bogdanov
Controversial problems of the epidemiology of infectious hepatitis, by M. M. Sheinbergas
The diagnosis of diphtheria, by N. K. Belaya
The first stage of eliminating diphtheria in the USSR, by M. I. Khazanov
Experience in work of reducing the diphtheria morbidity rate in Petrozavodsk, by A. G. Grigor'eva-Berenshtein and others.

RECENT MEDICAL CONFERENCES IN THE SOVIET UNION. 15 Mar 62 [28]p. JPRS: 13006.
Order from OTS or SLA $2.60 62-23466

Trans. from Vrachebnoe Delo (USSR) 1961, no. 8; Urologiya (USSR) 1961, v. 26, no. 6; Zdravookhranenie Belorussii (USSR) 1961 [v. 7] no. 7; Voprosy Kurortologii Fizioterapii i Lechebnoi Fizicheskoi Kul'tury (USSR) 1961, v. 26, no. 6; Kommunist, Erevan (USSR) 1961, no. 267, p. 2.

DESCRIPTORS: *Conferences, *Medicine, Psychology, Neurology, *Silicosis, *Urinary system, Diseases, Medical personnel, *Burns, Chemicals, *Esophagus, *Stomach, *Pediatrics.

Contents:
Scientific session of the Ukrainian Scientific Research Psychoneurological Institute (no. 21) by A. L. Abashev-Konstantinovskii
Plenary session of the Republician committee of the Academy of Sciences Ukrainian SSR for fighting silicosis (no. 14) by V. F. Shpinev
A report on the All-Union Convention of Urologists (no. 14) by G. I. Gol'din
The practical scientific convention of the staff doctors of the Crimean group of sanatoria of the Ministry of Defense USSR (no. 14) byB. Nikol'skii
Chemical burns of the oesophagus and the stomach, by V. Prokhorov
The activities of the Scientific Society of Pediatricians, by R. Mazo
Convention of pediatricians.

SURVEY OF TEN YEARS' RESEARCH ON MAJOR ENDEMIC DISEASES, SHOCK, AND ARTERIAL BLOOD AND FLUID TRANSFUSIONS. 28 Sep 60 [48]p. 41 refs. JPRS: 5585.
Order from OTS or SLA $4.60 60-41387

Trans. from Chung Hua Ping Li Hsüeh Tsa Chih (Chinese People's Republic) 1959, v. 5, no. 4,

DESCRIPTORS: *Diseases, Pathology, *Shock (Physiology), *Blood transfusions, Plasma substitutes, *Joints (Physiology), *Heart, Rheumatic fever, *China, *Medical research.

Contents:
Research on the patho-anatomy and experimental pathology of large joint disease in China during the past decade, by Li Pei-ling and Wang Heng-wen
Research on the pathology of K'O-shan disease in China during the past decade, by Lu Yen-jung
Chinese research on shock and arterial blood and fluid transfusions during the past decade, by Li Hsiu-ch'in.

Bul', P.
CURATIVE SLEEP. 8 Mar 63 [13]p. JPRS: 18021.
Order from OTS $0.50 63-21278

Trans of Znanie-Sila (USSR) 1962 [v. 37] no. 11, p. 28-30.

DESCRIPTORS: *Sleep, Therapy, Brain, Physiology, *Electrosleep, Diseases.

Cottier, P. and Göldi, C.
LATE RESULTS OF HEMODIALYSIS IN ACUTE AND CHRONIC RENAL INSUFFICIENCY (Spätresultate der Hämodialyse bei Akuter und Chronischer Niereninsuffizienz). Aug 62, 8p. 8 refs.
Order from SLA $1.10 62-20032

Trans. of Helv[etica] Med[ica] Acta (Switzerland) 1961, v. 28, Sep, p. 587-593.

DESCRIPTORS: *Artificial kidney, *Nephritis, Therapy, Medical equipment.

This is a report on the late results of 202 hemodialyses conducted during the past 4 years on 134 patients, according to the modified method of Alwall. Of 43 patients with acute renal insufficiency 15 (35%) are still alive. The cause of death in the remaining 65% was of an extrarenal nature. Only 1 of the patients with hepatorenal syndrome survived. Out of 87 patients with chronic renal insufficiency 54 had chronic pyelonephritis which was treated because of an acute attack. Of these, 12 patients (22.3%) are still alive. Their average survival time is 20.4 months. All of 14 patients with chronic glomerulonephritis died within the first 5 months after the first hemodialysis. The patient's age appears to have no significant influence on the survival time after hemodialysis. In 3 of 5 patients with severe barbiturate and glutethimide intoxications, hemodialysis contributed essentially to maintenance of life. (Author)

Dibner, R. D.
PHONOCARDIOGRAPHIC DIAGNOSIS OF FUNCTIONAL SYSTOLIC MURMURS. [1962] [13]p. 14 refs. FASEB manuscript no. S 33-2.
Order from OTS or SLA $1.60 63-15421

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 5, p. 37-42.

DESCRIPTORS: *Phonocardiography, Sound, Diagnosis, *Heart, *Diseases.

The phonocardiographic features of functional systolic murmur are short duration, with a correspondingly large interval between the noise and the second tone, small amplitude and relatively late start. The features of organic systolic murmur are long duration and a short interval between the noise and the second tone, large amplitude and start immediately after the first tone. The phonocardiographic signs of functional systolic murmur were most pronounced both in the apex cordis and in the region of the pulmonary artery, while murmur due to mitral insufficiency was most pronounced in the region of the apex cordis. Additional diagnostic criteria can be obtained by the use of the orthostatic test and the physical exertion test combined with phonocardiography. The amplitude of functional systolic murmur decreases in the standing position and increases considerably after physical exertion. The amplitude of organic murmur is only slightly increased or unaltered after physical exertion. (Author)

Kalmykova, V. I.
EFFECT OF MASSIVE DOSES OF FATS ON BLOOD SERUM LIPIDS IN CLINICALLY HEALTHY AND ATHEROSCLEROTIC SUBJECTS OF MIDDLE AND OLD AGE. [1962] [14]p. 12 refs. FASEB manuscript no. S 37-2.
Order from OTS or SLA $1.60 63-15418

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 2, p. 31-38.

DESCRIPTORS: *Fats, *Lipids, *Blood, *Arteriosclerosis, Age factors, Metabolism, Cholesterol, Lipoproteins, Phospholipids.

Slight variations in the metabolic lipoid levels, manifested by a rise in the blood cholesterol, lecithin, and β-lipoprotein fractions, set in after consumption of egg yolks by middle-aged and elderly, clinically healthy and atherosclerotic subjects. The rise in the lecithin fraction is less pronounced than that in the cholesterol fraction, and therefore the lecithin-cholesterol coefficient falls in most cases. In patients suffering from atherosclerosis of the coronary arteries with frequent attacks of angina pectoris, the variations in all the lipoid fractions were more pronounced and lasted longer than in the control group. These data show that tolerance to egg-yolk lipoids is reduced in atherosclerosis. In neither group of subjects were any important variations in lipoid metabolism discovered after consumption of butter, except for lecithin: the cholesterol and β-lipoprotein levels did not rise; the lecithin level and the lecithin-cholesterol coefficient increased slightly; and the neutral fat titer rose appreciably. These data show that acute massive doses of butter cannot be used as a test of determining lipoid tolerance since they do not reveal deviations in lipoid metabolism, particularly in regard to cholesterol. (Author)

Karryev, O. M. and Kapitanov, R. A.
MORBIDITY OF DISEASES CONNECTED PRIMARILY WITH COOLING OF THE ORGANISM AMONG THE POPULATION OF ASHKHABAD [AND] THE CONDITION AND THE PERSPECTIVES OF UTILIZATION OF COMMUNICATION, SIGNALING AND TELEMETRY IN THE THERAPEUTIC PROCESS. 8 Feb 63 [20]p. JPRS: 17534.
Order from OTS $0.50 63-21082

Trans. of Sovetskow Zdravookhranenie (USSR) 1962, v. 21, no. 10, p. 47-58.

DESCRIPTORS: *Vital statistics, Hypothermia, *Diseases, *Respiratory system, *Communication systems, Hospitals, *Therapy, Signals, Telemeter systems.

Katina, A. M. and Popova, L. I.
NEPHRITIC OSTEODYSTROPHY. [1962] [4]p. FASEB manuscript no. S 55-2.
Order from OTS or SLA $1.10 63-15415

Trans. of Vestnik Rentgenologii i Radiologii (USSR) 1962, v. 37, no. 1, p. 67-68.

DESCRIPTORS: *Nephritis, Pathology, *Bone, Etiology.

Kirova, M. A. and Nezlin, S. E.
SMOKING AND TUBERCULOSIS PATIENTS. 20 Feb 63, 3p. NIH no. 2-46-63.
Order from OTS or SLA $1.10 63-15753

Trans. of Probl[emy] Tuberk[uleza] (USSR) 1936, no. 7, p. 1146-1147.

DESCRIPTORS: *Smokes, *Tobacco, Control, *Tuberculosis, Inhibition, Cigarettes.

Smoking is extremely wide-spread among tuberculosis patients, and even among those with serious forms of the disease, including the laryngeal form; smoking occupies a very large place in the budgets of many patients; control of smoking by means of a persistent health education program has a good chance of success, since more than 2/3 of all patients do not experience any unpleasant sensations when they give up this undoubtedly harmful habit. (Author)

Likht, L. L.
PATHOGENESIS OF ACUTE CORONARY INSUFFICIENCY AND MYOCARDIAL INFARCTION IN HYPERTENSION. [1962] [13]p. (figs. omitted) 38 refs. FASEB manuscript no. S 61-2.
Order from OTS or SLA $1.60 63-15429
figs. available on loan from OTS

Trans. of Arkhiv Patologii (USSR) 1962, v. 24, no. 4, p. 32-37.

DESCRIPTORS: Pathology, *Blood circulation, *Heart, *Cardiac muscle, Thrombosis, *Necrosis, *Hypertension, Arteriosclerosis.

Acute coronary insufficiency, coronary thrombosis, and myocardial infarction in hypertension usually develop against a background of coronary atherosclerosis. The most important pathogenic factor in the development of these complications is coronary spasm. Functional disturbances to coronary circulation develop in the small arteries and arterioles and are accompanied by hypoxic changes leading to constriction of their lumina. Collateral circulation plays an important part in compensating for disturbed blood supply to the myocardium although even collaterals that are anatomically fully developed may be functionally inadequate. (Author)

Lipovetskii, B. M.
THE BLOOD HEPARIN AND CLEARING FACTOR IN ATHEROSCLEROSIS. [1962] [10]p. 13 refs. FASEB manuscript no. S 36-2.
Order from OTS or SLA $1.10 63-15419

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 3, p. 46-52.

DESCRIPTORS: *Blood, *Heparin, *Arteriosclerosis, Diagnosis.

In atherosclerotic patients, progress of the disease is characterized by a rise in the blood heparin level, reaching an average of 8.5 units/ml in chronic coronary insufficiency and of 10.2 units/ml in acute myocardial infarction (normal 6.6 units/ml). Investigation

of the clearing factor in 68 subjects revealed a tendency for it to diminish in atherosclerosis (8.9%), particularly marked in acute myocardial infarction (3.9%) (normal 11.4%). Heparin injected intravenously as a rule increased the oxygen saturation of the venous blood owing to reduced oxygen utilization by the tissues (in 54 out of 63 subjects). Fluctuations in the level of natural blood heparin and the influence of heparin administered intravenously in atherosclerosis are of great scientific and practical importance and require further study. (Author)

Polyakova, N. M. and Lishko, V. K.
ISOLATION AND PURIFICATION OF BRAIN PROTEINASE. [1962] [1]p.
Order from OTS or SLA $1.10 62-20310

Partial trans. (summary) of [Ukrayins'kyi Biokhimichnyi Zhurnal] (USSR) 1962, v. 34, no. 2, p. 208-216.

DESCRIPTORS: Chemical analysis, *Proteins, *Esterases, *Brain, Enzymes.

It was established earlier that no less than 80% of the proteinase present in brain tissue is localized in the mitochondria. Since this enzyme is readily extracted from the mitochondria by distilled water an aqueous solution of brain tissue was used to isolate and purify proteinase. The following methods were tested for the purification of proteinase: fractional salting out of the proteins of the aqueous brain extract with ammonium sulfate, purification by means of the method of ion-exchange chromatography on columns filled with diethylaminoethyl cellulose, fractionating with acetone the protein solution obtained from the acetone powder of the brain tissue. Investigations showed that on using as the initial product the acetone powder obtained from brain tissue and subsequently separating the proteins by the method of fractionating with acetone and then purifying on DEAE cellulose, the activity of the brain proteinase preparations may be raised 160 times. (Report quoted in its entirety)

Reinhard, M.
CARTILAGE TUMORS OF THE LARYNX AND THEIR TREATMENT (Die Knorpelgeschwülste des Kehlkopfes und ihre Behandlung). [1962] 7p. (figs. refs. omitted).
Order from SLA $1.10 62-20055

Trans. of HNO (Germany) 1960, v. 8, [no. 4] p. 121-123.

DESCTIPTORS: *Cartilage, *Larynx, *Neoplasms, Therapy, Surgery, Excision.

On the basis of general experiences surgical removal of chondromas of the larynx should be done early. Their growth and their development are incalculable like the mixed tumors of the parotid gland. Their radical removal is necessary, as proved in the 2 cases which were studied.

Rozenfel'd, I. I.
PRINCIPLES AND METHODS OF PLANNING PUBLIC HEALTH SERVICES: CURATIVE AND PREVENTIVE ASPECTS OF PUBLIC HEALTH SERVICES FOR RURAL POPULATION, tr. by H. Brachyahu. 1963, 45p. PL-480 HEW.
Order from OTS $0.50 63-11068

Trans. of mono. Osnovy i Metodika Planirovaniya Zdravookhraneniya: Lechebno-Profilakticheskoe Obsluzhivanie Sel'skogo Naseleniya, Moscow, 1955 [71p.].

DESCRIPTORS: *Public health, *Diseases, Inhibition, Therapy, Hospitals, *Rural areas, Standards, Preventive medicine.

Summary of the lecture: Aspects of planning methods in curative and preventive services for a rural population. Principal stages in the development of planning public health services in rural areas of the U. S. S. R. Numerators and denominators in planning curative and preventive services for a rural population. Standards for planning curative and preventive services for a rural population. Organization of rural curative and preventive institutions and standards of personnel. Methods of planning the development of a network of curative and preventive agencies in a rural district.

Safonov, A. G.
RSFSR ONCOLOGY. 24 Oct 62 [16]p. JPRS: 15860.
Order from OTS or SLA $1.60 63-15928

Trans. of mono. Meditsinskaya Pomoshch' Naseleniyu v RSRSR (Medical Aid to the Population of the RSFSR) Moscow, 1961, p. 303-338.

DESCRIPTORS: *Cancer, Medical research, Therapy, Inhibition.

Santo, G. dal and Palombo, R.
ON THE DISTRIBUTION OF P^{32} INJECTED INTRAVENOUSLY IN A CASE OF VON RECKLINGHAUSEN'S DISEASE BEFORE AND AFTER REMOVAL OF A PARATHYROID ADENOMA (Ricerche con l'Impiego di Radiofosforo nell'Uomo. II. Sulla Ripartizione del P^{32} Iniettato Endovena in un Caso di m. di Recklinghausen Prima e Dopo Exeresi di Adenoma Paratiroideo). Pt. 2 of Research with the Use of Radiophosphorus in Man. [1962] 4p. (figs. omitted).
Order from SLA $1.10 62-20443

Trans. of Folia Endocrinol[ogica] (Italy) 1955, v. 8, no. 4, p. 605-609.

DESCRIPTORS: Distribution, *Radioactive isotopes, *Phosphorus, *Parathyroid glands, *Neoplasms, Erythrocytes, Urine, Excretion.

Intravenously injected P^{32} in a patient with von Recklinghausen's disease (from a parathyroid adenoma) disappears more rapidly from the plasma than in normal subjects. In addition, there is a small uptake of P^{32} by the red cells while a noteworthy amount is excreted in the urine. Twenty days after removal of the parathyroid adenoma, the plasma disappearance of P^{32} is markedly abated and the red cell uptake and the urinary excretion of P^{32} are likewise returned to values found in normal subjects. (Author)

Udob, V. M.
PREPARATION OF PATIENTS WITH SEVERE THYROTOXICOSIS OF I^{131} ADMINISTRATION. [1962] [4]p. FASEB manuscript no. S 47-2.
Order from OTS or SLA $1.10 63-15416

Trans. of Meditsinskaya Radiologiya (USSR) 1962, v. 7, no. 4, p. 81-82.

DESCRIPTORS: *Hyperthyroidism, Therapy, *Iodine, *Radioactive isotopes, *Blood transfusions, *Hypnotics and sedatives, Thyroid gland, Absorption, Secretion

Treatment with antithyroid drugs prior to administration of I^{131} markedly alters the capacity of the thyroid to take up this isotope; such drugs often induce prolonged block of iodine uptake by the thyroid, with simultaneous aggravation of the symptoms of thyrotozicosis. Blood transfusion improved not only the immediate but also the more long-term results of treatment. Blood transfusion in combination with sedatives altered the iodine-uptake capacity of the thyroid in the required direction. Blood transfusions and reserpine caused a biological shift of thyroid function to a new level, slowing the rate of I^{131} uptake during the first 2-6 hours after administration and inhibiting its secretion from the gland 24-48 hours after administration.

Vaisfeld, L. L.
URINARY EXCRETION OF 5-HYDROXYINDOLEACETIC ACID IN CERTAIN NEUROPATHOLOGICAL CONDITIONS. [1962] 6p. (figs. omitted) 20 refs.
Order from OTS or SLA $1.10 62-20327

Trans. of Voprosy Meditsinskoi Khimii (USSR) 1961, v. 7, no. 3, p. 309-313.

DESCRIPTORS: Urine, Excretion, Pathology, *Brain, Muscles, *Indoles, *Acetic acids, *Hydroxides.

Daily (24) excretions of 5-hydroxyindoleacetic acid in patients with lesions of the diencephalus and with predominantly vegetative-vascular symptomology range between 1.3 and 7.6 mg; while in patients with predominantly neuro-endocrinal disturbances the range is from 0.0 to 9.5 mg (where normal figures are 1.7 to 7.2 mg.) In myasthenic patients the output is lowered, the mean being 2.3 mg for 24 hours. Low excretion is not only characteristic for myasthenic patients, but also of patients in whom the diencephalic syndrome appeared in conjunction with phenomena of muscular pathology. (Author)

Volzhina, N. S.
RESULTS OF OCCLUSION OF THE GREAT CEREBRAL VEIN IN YOUNG ANIMALS. [1962] [11]p. (figs. omitted) 22 refs. FASEB manuscript no. S 42-2.
Order from OTS or SLA $1.60 63-15430
figs. available on loan from OTS

Trans. of Arkhiv Patologii (USSR) 1962, v. 24, no. 4, p. 55-61.

DESCRIPTORS: *Veins, *Brain, *Obstruction (Physiology), Pathology, Regeneration, Neurology, *Adaptation (Physiology).

The fairly complete reconstruction of venous circulation that takes place after occlusion of the great cerebral vein in puppies is largely complete within 3 weeks of the operation. The major role in the formation of collateral efferent pathways following occlusion of the great cerebral vein is played by anastomoses of the subarachnoid veins of the adjacent zones of collateral circulation. An important part in this process is played by anastomoses in the adjacent zone of the medial area of the brain, which are subsequently transformed into the main collateral efferent pathways from the subcortical formations. Despite the anatomical compensation of venous outflow, occlusion of the great cerebral vein in puppies is accompanied by partial loss of nerve cells and in some cases by the development of areas of gliosis: higher nervous activity is also affected. In young puppies (1-2 months) the vascular network of the subarchnoid veins can undergo considerable reconstruction in conditions of vascular disturbance and form new, more direct efferent pathways. There are grounds for assuming that disturbance to the venous vascular network is more completely compensated in young infants than in older children and adults. (Author)

Zil'ber, L. A. and Abelev, G. I.
VIROLOGY AND IMMUNOLOGY OF CANCER: CONCLUDING REMARKS, APPENDIX, TABLE OF CONTENTS. 28 Feb 63 [50]p. JPRS: 17877.
Order from OTS $1.25 63-21226

Trans. of mono. Virusologiya i Immunologiya Raka, Moscow, 1962, p. 361-399 and 456-458.

DESCRIPTORS: Viruses, *Immunology, *Cancer, Etiology, Inhibition, *Genetics, Leukemia.

Pharmacology and Toxicology

INSTRUCTIONS GOVERNING THE TESTING OF NEW MEDICINES IN BULGARIA: INSTRUCTION NO. 4311. 13 Mar 63 [6]p. JPRS: 18109.
Order from OTS $0.50 63-21312

Trans. of Durzhaven Vestnik (Bulgaria) 1963, 4 Jan, p. 6-7.

DESCRIPTORS: Standards, Tests, *Drugs, Pharmacology, *Bulgaria.

PHARMACOLOGY AND TOXICOLOGY, 1962, VOL. 25, NO. 5: [SELECTED] ARTICLES. 5 Feb 63 [35]p. 18 refs. JPRS: 17474.
Order from OTS $1.00 63-21056

Trans. of #Farmakologiya i Toksikologiya (USSR) 1962, v. 25, no. 5, p. 533-538, 564-569, 579-584.

DESCRIPTORS: *Pharmacology, *Toxicity, *Dimeline, Autonomic nervous system, *Drugs, *Autonomic agents, *Sympatholytic agents, Stimulation, Uterus, *Thiourea, Propyl radical, *Radioprotective drugs, Methyl radicals, Pyridine derivatives.

Contents:
On the pharmacology of dimecoline: a new ganglioblocking agent, by I. M. Sharapov
The pharmacology of a new myometrium stimulator: propylisothiuronium, by I. G. Boldina
The effect of certain derivatives of esculetin and methylesculetin on tissue permeability and the durability of vessels of irradiated animals, by I. S. Rudakova.

Albeaux-Fernet, M., Romani, J. D. and others.
CLINICAL AND METABOLIC STUDY OF SYNTHETIC ALDOSTERONE DURING ADRENAL INSUFFICIENCY (Étude Clinique et Métabolique de l'Aldostérone Synthétique au Cours de l'Insuffisance Surrénale). Aug 62, 11p. 17 refs.
Order from SLA $1.60 62-20104

Trans. of Annales d'Endocrinologie (France) 1961, v. 22, 2 Feb, p. 230-238.

DESCRIPTORS: *Drugs, *Adrenal glands, *Diseases, Metabolism, *Aldosterone, Dosage, Therapy, Pharmacology, Blood pressure.

This is a study of the clinical and metabolic effects of the short term administration of synthetic aldosterone (mono-acetate of dl-aldosterone) with three methods of administration: venous infusion of the hydrosoluble preparation, intramuscular injection of the oily solution and finally, oral administration. The study bears on three cases of primary adrenal insufficiency (Addison's disease) and one case of primary hypoaldosteronism. In slow venous infusion, 1 mg. of dl-aldosterone in 500 cc. of isotonic glucose solution, is capable of initiating a hydrosaline retention, and of rapidly raising the blood pressure level. The comparison between the effects of parenteral administration (1 mg. a day) and the oral one (500 to 2500 mcg. a day) is clearly in favor of the latter drug, whose effects are more constant on general status, asthenia, blood pressure and sodium retention. The potassium losing effects are less intense with oral than with injectable preparations. The necessary doses for producing a significant sodium retention are around 1 mg. a day for the injectable oily solution and between 1.5 and 2 mg. a day for the oral one. On a short term basis, better effects are obtained than with desoxycorticosterone preparations. (Author)

Assenmacher, I., Tixier-Vidal, A., and Bayle, J. D.
INHIBITION OF THE PHOTOSEXUAL REFLEX BY RESERPINE IN MALE DUCKS (Inhibition du Réflexe Photo-Sexuel par la Réserpine chez le Canard Mâle). Aug 62, 7p. 28 refs.
Order from SLA $1.10 62-20036

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Seances] (France) 1961, v. 155 [no. 12] p. 2235-2240.

DESCRIPTORS: Drugs, *Inhibition, *Reflexes, Sex glands, *Sex, Stimulation, Light, Birds, *Reserpine, Spermatogenesis, Pituitary hormones

Reserpine inhibits the reactivity of the testicles of young ducks to permanent artificial light. The marked development of testicular weight due to the photosexual reflex is absent. Histologically the photic stimulation of spermatogenesis is inhibited more or less completely; that of the interstitial gland also very distinctly. The action of reserpine nevertheless seems to be greater on the seminiferous tubules than on the interstitial layer. These results are discussed in relation to the action of prolactin on testicular development. (Author)

Balzer, H. and Palm, D.
ON THE MECHANISM OF ACTION OF RESERPINE ON THE GLYCOGEN OF ORGANS. [1962] 25p. (figs. tables omitted) 38 refs.
Order from SLA $2.60 62-20240

Trans. of [Naunyn-Schmiedeberg's] Arch[iv für] Exp[erimentelle] Path[ologie und Pharmakologie] (West Germany) 1962, v. 243, p. 65-84.

DESCRIPTORS: *Drugs, Pharmacology, *Reserpine, *Glycogen, Brain, Muscles, Heart, Liver, *Isoniazid.

Experiments on mice on the increase of the glycogen content of organs produced by reserpine show: (1) After the subcutaneous injection of 5 mg/kg reserpine there is a rise of organ glycogen in skeletal muscle, the heart and liver after 12 hours with 100, 174, and 300% respectively, and in the brain 100% after 18 hours. Only the fraction of "free" glycogen, extractable with tetrachloroacetic acid (TCA), is affected by this increase of glycogen content. (2) Studies with C^{14}-alanine showed that the increase of glycogen content in the brain and liver after reserpine, is connected with an increased gluconeogenesis. (3) The fraction of "bound" glycogen probably represents that part of the tissue glycogen in which the enzymatic synthesis and destruction take place. After the injection of C^{14}-alanine, the specific activity is higher than in the fraction of "free" glycogen, but it falls more quickly under reserpine. (4) The enhanced gluconeogenesis after reserpine is connected with an increased inflow of amino acids in the liver; in the brain it is connected with a diminished exogenous amino acid supply. (5) Iproniazid acted opposite to reserpine.

Barmenkov, A. S. Fedotova, M. V. and others.
AN IMPROVED METHOD OF PREPARING 11α-HYDROXYPROGESTERONE. [1963] 3p.
Order from ATS $5.00 ATS-46P66R

Trans. of Med[itsinskaya] Prom[yshlennost'] SSSR, 1961, v. 15, no. 3, p. 39-40.

DESCRIPTORS: *Progesterone, *Hydroides, Synthesis

Basset, G., Jeanjean, Y., and Turiaf, J.
STUDIES ON THE PROTECTIVE POWER OF AN ANABOLIC AGENT, NORETHANDROLONE, ON THE ADRENAL CORTEX OF RATS GIVEN HYDROCORTISONE (Recherches sur le Pouvoir Protecteur d'un Anabolisant, la Norethandrolone, sur la Corticosurrenale des Rats Soumis à l'Hydrocortisone). Aug 62, 4p. 2 refs.
Order from SLA $1.10 62-20106

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Seances] (France) 1962, v. 156 [no. 2] p. 232-234.

DESCRIPTORS: *Drugs, Metabolism, Stimulation, *Androgens, *Adrenal cortex, Rats, *Corticosteroids, Testosterone, Pharmacology.

Norethandrolone, as well as testosterone, counteracts the catabolic action of hydrocortisone, prevents the adrenal atrophy due to corticoids and finally, maintains an increased lipid concentration in the different layers of the adrenal cortex.

[B]oiko, V. I.
MORPHOLOGICAL ANALYSIS OF THE ACTION OF THE ANTIBIOTICS OLIVOMYCIN AND KRUTSIN ON THE CELLS OF THE ASCITIC FORM OF EHRLICH'S TUMOR. 13 Feb 63 [17]p. 13 refs. JPRS: 17619.
Order from OTS $0.50 63-21128

Trans. of #Antibiotiki (USSR) 1962, v. 7, no. 12, p. 1085-[1090].

DESCRIPTORS: *Antibiotics, Tumors, Morphology, Cells (Biology), Pharmacology, Drugs, Nucleoproteins. Actinomycetes, Toxicity, Edema.

Olivomycin, even in large doses, does not induce destructive changes in vitro in cells of the ascites form of the Ehrlich tumor. Upon exposure to this preparation, there is only a pronounced swelling of the endoplasmic reticulum. Krutsin in large doses causes, in vitro, changes in a certain percentage of the cells of the ascites form of the Ehrlich tumor. These changes are basically those of damage to the mitochondria (swelling and lysis of the matrix, disruption of the christae and of the membranes), and also include a unique redistribution (lamination) and reduction in the concentration of ribenucleoproteins of the cell. These changes, to a certain degree, are distinct from those observed following exposure to the actinomycetes antibiotics. Only a comparison of the morphologic methods utilized will enable one to characterize the action of the test antibiotics on the tumor cell. (Author)

Chagovets, R. V. and Shtutman, Ts. M.
CHANGES IN GLUCOSE SYNTHESIS AND ITS UTILIZATION BY THE RAT ORGANISM UNDER THE ACTION OF CHLORPROMAZINE. [1962] 2p.
Order from OTS or SLA $1.10 62-20317

Partial trans. (summary) of [Ukrayins'kyi Biokhimichnyi Zhurnal] (USSR) 1962, v. 34 [no. 1] p. 56-63.

DESCRIPTORS: Drugs, *Glucose, Synthesis, Rats, *Chlorpromazine, Tranquilizers, Tracer studies, Brain, Liver, Blood.

Eechaute, W., Lacroix, E., and Leusen, I.
INHIBITING EFFECT OF TETRABENAZINE ON THE ADRENAL CORTICAL INFLUENCE OF RESERPINE (Effet Inhibiteur de la Tétrabénazine sur l'Influence Corticosurrénalienne de la Réserpine). Aug 62, 4p. 6 refs.
Order from SLA $1.10 62-20136

Trans. of Experientia (Switzerland) 1962, v. 18, 15 May, p. 233-239.

DESCRIPTORS: *Phenanthridines, *Drugs, Pharmacology, *Reserpine, Inhibition, Stimulation, *Adrenal cortex.

Reserpine provokes an intense and long-lasting (more than 20 h) stimulation of the adrenocortical activity of the rat. Tetrabenazin (50 mg/Kg) also produces an adrenocortical stimulation which is, however, of a much shorter duration. The injection of tetrabenazine 1 h before the injection of reserpine (5 mg/Kg) prevents the prolonged stimulating effect of reserpine on the adrenal cortex. This effect can be compared with the blocking effect of tetrabenazin, a short-acting central depressant with monoamine-liberator properties, against the prolonged central sedative influence of reserpine. (Author)

Gottstein, U., Bernsmeier, A. and others.
HEMODYNAMICS AND METABOLISM IN THE BRAIN IN HYPNOTIC INTOXICATION (Hamodynamik und Stoffwechsel des Gehirns bei Schlafmittelvergiftung). Aug 62, 18p. 119 refs.
Order from SLA $1.60 62-20030

Trans. of D[eu]tsch[e] Med[izinische] W[ochen]schr[ift] (West Germany) 1961, v. 86 [no. 45] p. 2170-2176.

DESCRIPTORS: *Drugs, *Anesthetics, Blood pressure, Metabolism, *Oxygen, *Brain, Toxicity, Hypnotics and sedatives, Barbiturates.

In deep hypnotic coma cerebral circulation and cerebral oxygen consumption are reduced; the cause may be a histotoxic hypoxydosis due to the intoxication. A decrease in the oxygen requirements ("hypochreosis") by reduction of the continuous activity metabolism to a metabolism at rest present only in anesthesia, is more probable on the basis of the investigations. With ββ-methyl-ethyl glutaric acid imide (Eukraton) we can level off deep anesthesia and bring the patients from a dangerous areflexia into a state of sustained protective reflexes, stable blood pressure conditions and a respiratory "safe state". This is accompanied by a rise in cerebral circulation and cerebral oxygen uptake. As long as the narcotic completely or predominantly abolishes the activity of the brain cells and reduces oxygen consumption to a minimum, the cerebral circulation is depressed even with sufficient blood pressure values. But if we can level the anesthesia with the analeptic, oxygen consumption will increase. Simultaneously the cerebral circulation increases accordingly. (Author)

Mashkovskii, M. D. and Il'yuchenok, R. Yu.
THE PROBLEM OF THE EFFECT OF GALANTHAMINE ON THE C[ENTRAL] N[ERVOUS] S[YSTEM] [K Voprosu o Vliyanii Galantamina na Tsentral'nuyu Nervnuyu Sistemu]. [1962] [23]p. 21 refs.
Order from OTS or SLA $2.60 62-20323

Trans. of Zhurn[al] Nevropatol[ogii i] Psikhia[trii] (USSR) 1961, v. 61, no. 2, p. 166-175.
Another trans. is available from OTS $0.50 as 61-31497, JPRS-9516, 23 June 61, 15p.

DESCRIPTORS: *Drugs, *Galanthamine, Amines, Nervous system, *Cholinestarase inhibitors.

The results indicate that galanthine produces effects on the functional condition of the central nervous system, (C. N. S.), which are similar to those produced by eserine, but differ from those produced by proserine. This difference and the similarity can be explained in terms of their chemical composition, the former two substances being structurally more alike. Quarternary amine compounds, (such as proserine), do not penetrate into the central nervous system as readily as tertiary amine compounds, such as galanthamine and eserine. An analysis of the anticholinesterase properties of galanthamine and the results of experiments involving the administration of cholinolytic substances leads to the conclusion that the effect of this alkaloid on the C. N. S. depends to a large extent upon its effect on cholinoreactive structures.

Morpurgo, C. B. and Bernasconi, A.
HYPERTENSIN IN THE THERAPY OF SERIOUS STATES OF HYPOTENSION (Hypertensin in der Therapie Schwerer Hypotoniezustände). Aug 61 [1]p.
Order from SLA $1.10 61-20184

Abstract trans. of Ciba Bull[etin]. Clin[ical] Trials [sic] 1961, no. 10, 31 May, p. 22-23 (original article pub. in [der] Anaesthesist (Germany) 1961, v. 10, p. 77-87).

DESCRIPTORS: *Drugs, *Hypertensin, Therapy, *Hypotension, *Shock (Pathology).

Rossano, P., Mazzacca, G., and Bianco, A. R.
EFFECTS OF METHANDROSTENOLONE ON ANAPHYLACTIC SHOCK AND ON SHWARTZMAN'S PHENOMENON (Effetti del Metandrostenolone sullo Shock Anafilattico e sul Fenomeno di Schwartzmann). July 62 [4]p. 1 ref.
Order from SLA $1.10 62-20035

Trans. of Soc[ieta] Ital[iana di] Biol[ogia] Sper[imentale]. Boll[ettino] 1961, v. 37, 31 Dec, p. 1310-1312.

DESCRIPTORS: *Drugs, *Dianabol, *Anaphylactic shock, Antigens and antibodies.

Sales, J. M. and Cascaes, O. B.
EXPERIENCES WITH MEXAFORM IN GIARDIASIS (Experiencias com o Mexaformio na Terapeutica da Giardiase). June 62, 7p. 8 refs.
Order from SLA $1.10 62-20039

Trans. of [a] Folha Med[ica] (Brazil) 1960, v. 41, p. 155-157.

DESCRIPTORS: Drugs, *Parasitic infections, Protozoa *Zoomastigophorea, Therapy, *Chemotherapeutic agents.

The authors tested on patients infested with Giardia lamblia the activity of a new drug combination provisionally denominated Mexaform. As the criterion of cure they admitted negativation for Giardia lamblia in 5 stool samples controlled by the direct method during 7 days following treatment. The authors observed parasitological cure in 18 patients (90%) out of a group of 20 that used the new drug combination with a minimum of side effects, concluding for its usefulness in treatment of giardiasis. (Author)

Stuttgen, G. and Tietz, H.
SKIN REACTION TO INTRACUTANEOUSLY INJECTED HYPERTENSIN (Zur Hautreaktion auf Intracutan Injiziertes Hypertensin). July 62, 3p. 3 refs.
Order from SLA $1.10 62-20038

Trans. of Klin[ische] W[ochen]schr[ift] (West Germany) 1962, v. 40 [no. 10] p. 541-542.

DESCRIPTORS: Drugs, Pharmacology, *Skin, *Adaptation (Physiology), *Hypertensin, Epinephrine.

The anemic skin reaction to intracutaneously applied hypertensin is greater in surface than that of an equimolar norepinephrine solution. The erythema surrounding the anemic zone is more marked after norepinephrine. No piloerrection occured with hypertensin. Thirty to 60 min. after the injection, the surface area of the anemia is about the same with equimolar concentrations of hypertensin and norepinephrine. (Author)

Taubert, M. and Wagner, H. H.
STUDIES ON OBTAINING ANGIOTENSIN II (HYPERTENSIN II) (Untersuchungen zur Gewinnung von Angiotensin II (Hypertensin II)). Aug 62, 9p. 19 refs.
Order from SLA $1.10 62-20108

Trans. of Klin[ische] W[ochen]schr[ift] (West Germany) 1962, v. 40 [no. 1] p. 54-56.

DESCRIPTORS: *Drugs, Pharmacology, *Hypertensin, *Blood, Separation, Biochemistry.

The vasopressor substance angiotensin II (hypertensin II) which was found in increased quantity in the organism in certain cases of hypertension can now be prepared synthetically. So far there are no accurate laboratory methods for its quantitative detection in patients blood. A method to regain angiotensin from the blood in a good yield was developed. The way described consists of four different work steps: extraction and ultrafiltration, column chromatography, elution and precipitation. The substance obtained is evaluated biologically.

Timofeeva, A. G., Barmenkov, A. S., and Fedotova, M. V.
A METHOD OF PREPARATION OF 11α-HYDROXYPROGESTERONE BY MICROBIOLOGICAL HYDROXYLATION OF PROGESTERONE (IN CONNECTION WITH THE SYNTHESIS OF CORTISONE). [1963] 4p.
Order from ATS $6.00 ATS-47P66R

Trans. of Med[itsinskaya] Prom[yshlennost'] SSSR, 1957, v. 11, no. 7, p. 23-26.

DESCRIPTORS: *Progesterone, *Hydroxides, Synthesis, *Corticosteroid agents, Microbiology.

Traugott, N. N., Balonov, L. Ya. and Kaufman, D. A.
ON THE MECHANISM OF THE ACTION OF CHLORPROMASINE ON THE HIGHER NERVOUS ACTIVITY OF MAN. [1962] [1]p.
Order from OTS or SLA $1.10 62-20361

Partial trans. (summary) of #Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1961, v. 11, no. 5 [p. 814-822].

DESCRIPTORS: *Drugs, Pharmacology, *Chlorpromazine, *Brain, Spinal cord, Psychoses, Tranquilizers.

Intravenous administration of chlorpromasine in the dose of 0.025 to 0.06 to mentally diseased persons who are close to full recovery or remission, does not lead to the disappearance of the previously elaborated simple and complex forms of conditioned connections, in spite of the resulting state of immobility, drowsiness or sleep; the patients also preserve the capacity to form new conditioned reflexes. Only the previously elaborated defensive reflexes and new defensive conditioning become electively suppressed. At the same time the functional state of the cerebral cortex changes; irradiation of excitation about the cortex and to vegetative centres of the brain stem declines. The motor reactions decrease and the conditioned connections which are formed at the period of the drug action are not preserved. The changes provoked in the higher nervous activity by adrenaline injections are eliminated by a subsequent administration of chlorpromasine. It is concluded that the action of chlorpromasine in doses used is connected both with a decrease in the influence of the ascending activating systems on the cortical activity and with its direct influence on the cortical cells. "Report quoted in its entirety."

Radiobiology

SOVIET MEDICAL TESTS ON LYMPHOSARCOMAS AND PROTEIN MYOSIN. 12 Feb 63 [19]p. JPRS: 17576.
Order from OTS $0.50 63-21097

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 146, no. 5, p. 1189-1192 and 1197-1200.

DESCRIPTORS: *Sarcoma, Mice, *Radiation effects, Thymus gland, Estrogens, Androgens, *Lymphatic system, *Paramagnetic resonance, Proteins, *Myosin, Spectrographic data, Medical research.

Contents:
Rate of occurrence of lymphosarcoma in mice following single or repeated exposures to radiation, by S. N. Aleksandrov and K. F. Galkovskaya
Electron paramagnetic resonance study of the different structural forms of the protein myosin, by L. L. Razumova and others.

Arbuzov, S. Ya.
ASPECTS OF PHARMACOLOGICAL PROTECTION FROM RADIATION INJURY. [1962] [34]p. 33 refs. FASEB manuscript no. S 12-2.
Order from OTS or SLA $3.60 63-15426

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1962, v. 17, no. 3, p. 58-74.
Another trans. is available from OTS or SLA $5.60 in 62-25016, JPRS-13822, 21 May 62 [54]p.

DESCRIPTORS: Drugs, Radioprotective drugs, Inhibition, *Radiation injuries, Radiation sickness, Nervous system, *Cysteinamines.

This research provides sufficient grounds for the assertion that various protective substances affect the functional state of different divisions of the nervous system, especially the subcortical regions, and it is possible that they ensure compensation of the functions disturbed by radiation injury. The various neuroplagic and vegetotrophic substances used as chemical agents that have an effect on the mediation of nervous impulses certainly seem to offer a promising approach for therapy and prophylaxis in radiation pathology. (Author)

Beibutov, Sh. M.
ETAT DU SANG PÉRIPHÉRIQUE ET DE LA MOELLE DES OS LORS DE LA TÉLÉGAMMATHÉRAPIE DES MALADES ATTEINTS DU CANCER DE L'OESOPHAGE [Conditions of the Peripheral Blood and Bone Marrow in Telegamma Therapy of Patients with Esophogeal Cancer]. 24 Mar 62 [18]p. 11 refs. CEA Trans. no. R 1548. (text in French).
Order from OTS or SLA $1.60 62-33759

Trans. in French of #Med[itsinskaya] Radiol[ogiya] (USSR) 1961 [v. 6] no. 2, p. 7-11.

DESCRIPTORS: *Cancer, *Esophagus, *Radiation therapy, Gamma rays, *Blood, *Bone, Cells (Biology), Radiation effects.

Cima, Lorenzo and Pozza, Franco.
INFLUENCE OF RADIOPROTECTORS ON THE TOXICITY OF MECHLORETHAMINE (Influenza di Radioprotettori sulla Tossicita della Mecloretemina) tr. by W. H. Everhardy. 23 Mar 61 [16]p. 27 refs. NIH no. 3-35-61.
Order from OTS or SLA $1.60 63-15590

Trans. of la Ricerca [Scientifica] (Italy) 1960, v. 30, no. 5, p. 680-685.

DESCRIPTORS: *Radioprotective drugs, Toxicity, *Inhibition, X-rays, *Nitrogen mustards, *Radiation effects, Pituitary harmones, Carbamates, Chelating compounds, Antioxidants, Thiol, Reserpine, Chloropromazine.

The protective action of radioprotectors with respect to the toxicity of mechlorethamine, evaluated in the mouse (LD_{99}/6 days) was studied. The maximum protection was observed with sodium diethyldithiocarbamate, which belongs to the group of the chelating substances, and it became progressively smaller with the metabolism depressors, polyvalent alcohols and anti-oxidants; it was practically nil with sulfhydryl compounds, hormones and amines. On the basis of knowledge about the action mechanism of the alkylating agents there is discussed the nature of the protective action exercised by compounds considered to be typical radioprotectors, and some analogies are observed between the action mechanisms of the alkylating agents and ionizing rays. (Author)

Garvei, N. N., Politova, E. M., Elpat'ev, G. N.
CLINICO-MORPHOLOGICAL CHARACTERISTICS OF CHRONIC RADIATION SICKNESS INDUCED EXPERIMENTALLY BY MEANS OF EXTERNAL IRRADIATION. 15 Mar 63 [13]p. JPRS: 18153.
Order from OTS $0.50 63-21332

Trans. of Gigiena Truda i Professional'nye Zabolevaniya (USSR) 1962, v. 6, no. 12, p. 26-33.

DESCRIPTORS: *Radiation sickness, Pathology, Radiation effects, *Hemopoietic system, Nervous system, Liver, Kidneys, Skin, Blood cells, Morphology.

Grimm, A. I. and Kartuzhanskii, A. L.
EFFECT ON POTATOES AND ONIONS OF IRRADIATION BY RADIOACTIVE COBALT. [1962] [15]p. [DSIR] NLL M. 3688.
Order from OTS or SLA $1.60 62-25293

Trans. of Inst[itut] Sov[etskoi Torgovli]. Sbornik Nauch[nykh] Rabot (USSR) 1959, v. 13, p. 14-20.

DESCRIPTORS: *Radiation effects, *Cobalt, *Potatoes, Vegetables, Food, Chemical analysis

Results are given of an investigation into the effects of radioactive gamma-radiation by the cobalt isotope Co^{60} on the sprouting, food value and chemical properties of potatoes and onions. (Author)

Kashchenko, L. A., Babskii, E. D. and others.
RADIOBIOLOGY: THE RADIATION INJURY MECHANISM IN MOUSE OVARIES [AND] ELECTRICAL STIMULATION OF THE HEART BY MEANS OF RADIOFREQUENCY IMPULSE TRANSMISSION. 11 Mar 63 [18]p. 22 refs. JPRS: 18045.
Order from OTS $0.50 63-21290

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 1, p. 217-220 and 255-258.

DESCRIPTORS: *Radiobiology, *Radiation injuries, *Ovary, Mice, Bioelectronics, Stimulation, *Heart, *Radiofrequency pulses.

Kovtunovich, L. G. and Rubnitskaya, A. Yu.
THE SIGNIFICANCE OF PLASMA CELLS IN ANTIBODY FORMATION PROCESS DURING IONIZING RADIATION. 8 Mar 63 [13]p. 21 refs. JPRS: 18020.
Order from OTS $0.50 63-21277

Trans. of Arkhiv Patologii (USSR) 1962, v. 24, no. 12, p. 15-21.

DESCRIPTORS: *Immunology, *Blood plasma, Blood cells, Radiation effects, *Antigens and antibodies, Biosynthesis, Lymphatic system, Spleen

Lengerova, A.
TO THE PROBLEM OF HETEROGENEITY OF CELLS ORIGINATING FROM DIVISION OF A MOTHER CELL (K Voprosu o Neravnotsennosti Kletok, Voznikayushchikh Putem Deleniya Meterinskoi Kletki) tr. by Lydia Venters. Oct 62, 17p. 6 refs.
Order from OTS or SLA $1.60 AEC-tr-5423

Trans. of Chekhoslovatskaya Biologiya, 1953, v. 2, no. 1, p. 18ff.

DESCRIPTORS: *Cells (Biology), *Reproduction, Morphology, *Genetics, Sex, Beta particles, *Radiation effects.

Morphological differences in both cells resulting from division of a mother cell and displayed first of all in the difference in cell length, were discovered in the unicellular green algae Mesotaenium caldariorum. It was found that two cells originating from division of a mother cell, functionally are heterogeneous; this is manifested by the fact that they require different time intervals for the preparation to further division. The interrelation between the above-described morphological and functional heterogeneity was proved. The cells that undergo delayed division are the shortest specimen of individual pairs. The problem was discussed, which of the two heterogeneous cells of one pair corresponds more to the denotation "mother cell" introduced by O. B. Lepeshinskaya. (Author)

Luzanova, L. M. and Chubakov, A. A.
ETUDE DE LA COMPOSITION CHIMIQUE DU CHRISTALLIN DE L'OEIL LORS D'UNE CATARACTE DUE AUX RAYONNEMENTS [Study of the Chemical Composition of the Lens in Radiation Cataract] tr. by Mme. Giuliani. 24 Mar 62 [13]p. 2 refs. CEA Trans. no. R1635 (text in French).
Order from OTS or SLA $1.60 62-33734

Trans. in French of #Med[itsinskaya] Radiol[ogiya] (USSR) 1961, v. 6, no. 9, p. 21-26.

DESCRIPTORS: *Eye, *Crystalline lens, Chemical properties, *Radiation injuries, Sodium, Potassium, Chlorine, Permeability.

Peterson, O. P., Berezina, O. N. and others.
EFFECTS OF IONIZING RADIATION ON IMMUNITY (EFFECT OF IONIZING RADIATION ON VIRUS INFECTIONS AND ANTI-VIRUS IMMUNITY): FOREWORD, INTRODUCTION, AND CONCLUSION. 9 Feb 62 [16]p. JPRS: 12428.
Order from OTS or SLA $1.60 62-15960

Trans. of mono. [Vliyanie Ionizeryushchego Izlucheniya na Verudnye Infektsii i Protivovirusnyi Immunitet] Moscow, 1961, p. 2, 5-7, 141-149.

DESCRIPTORS: *Radiation effects, Ionization, *Immunity, *Virus infections, Antigens and antibodies, Radiation sickness, Infections.

Rodina, L. I. and Legchaev, V. Ya.
THE COURSE OF BURN SHOCK DURING VARIOUS PERIODS OF RADIATION SICKNESS [AND] THE INFLUENCE OF THE CAUCASIAN YAM ON THE PROTEINS OF MICE, RATS, AND GUINEA PIGS DURING ACUTE RADIATION SICKNESS. 28 Feb 63 [15]p. JPRS: 17872.
Order from OTS $0.50 63-21221

Trans. of Zdravookhranenie Belorussii (USSR) 1962, v. 8, no. 11, p. 34-41.

DESCRIPTORS: *Burns, *Traumatic shock, *Radiation sickness, Blood pressure, Respiration, Reflexes, *Potatoes, Proteins, Laboratory animals, *Radioprotective drugs, Therapy.

Shevchenko, V. I. and Baisogolov, G. D.
CHARACTERISTICS OF DISTURBANCES OF THE BLOOD COAGULATION SYSTEM IN CHRONIC (OCCUPATIONAL) X-RAY IRRADIATION [AND] EFFECT OF PROLONGED AND REPEATED IRRADIATIONS ON THE BLOOD AND HEMOPOIETIC ORGANS. 15 Feb 63 [38] 146 refs. JPRS: 17659.
Order from OTS $1.00 63-21141

Trans. of Meditsinskaya Radiologiya (USSR) 1962 [v. 7] no. 12, p. 49-55 and 68-77.

DESCRIPTORS: *Health physics, *Radiation effects, *X-rays, *Blood coagulation, *Hemopoietic system, Industrial medicine.

Surgery

Bilenko, V. V., Kharitonov, L. G. and others.
STUDY OF THE VIABILITY OF BLOOD VESSELS PRESERVED BY FREEZING AND DRYING IN A VACUUM [AND] STUDY OF THE FUNCTIONAL FEATURES OF A PROSTHESIS REPLACED ESOPHAGUS. 19 Feb 63 [18]p. 17 refs. JPRS: 17726.
Order from OTS $0.50 63-21171

Trans. of Grudnaya Khirurgiya (USSR) 1962, v. 4, no. 6, p. 45-50 and 80-83.

DESCRIPTORS: *Viability, *Freeze-drying, *Blood-vessels, Transplantation, Growth, Plastic surgery, *Prosthetics, *Esophagus.

Kovalenko, P. P. and Emelyanov, V. A.
HOMOTRANSPLANTS OF FROZEN AND FROSTED CARTILAGE (Gomotransplantatsiya Zamoroshennogo i Okhlazhdennogo Khryashcha) tr. by Tatiana Boldyreff. 21 May 62, 5p.
Order from OTS or SLA $1.10 62-32135

Trans. of Stomatologiya (USSR) 1961 [v. 40] no. 4, p. 27-28.

DESCRIPTORS: *Transplantation, Tissues (Biology), *Cartilage, Preservation, *Freezing.

Zoology

Andriyashev, A. P.
ANCIENT DEEP-WATER AND SECONDARY DEEP-WATER FISHES AND THEIR IMPORTANCE IN A ZOOGEOGRAPHICAL ANALYSIS, tr. by Alice Rundle Gosline. [1962] [10]p. 26 refs.
Order from OTS or SLA $1.10 62-23862

Trans. from mono. Ocherki po Obshchim Voprosam Ikhiologii (Notes on Special Problems in Ichthyology) Moscow/Leningrad, 1953.

DESCRIPTORS: *Fishes, *Ecology, Distribution, Morphology, Oceans, *Marine biology.

Andriyashev, A. P.
NORTHERN MARINE FISHES: SELECTED TAXONOMIC PAPERS, tr. by Omry Ronen. 1963, 58p. 48 refs. PL-480 Int.
Order from OTS $0.50 61-31030

Trans. of Akademiya Nauk SSSR. Zoologicheskii Institut. Trudy, 1952, v. 12, p. 415-417; ##1955, v. 18, p. 349-384; Voprosy Ikhtiologii (USSR) 1958, no. 11, p. 171-180; Akademiya Nauk SSSR. Institut Okeanologii. Trudy, 1955, v. 12, p. 340-344; Zoologicheskii Zhurnal (USSR) 1957, v. 36, no. 11, p. 1747-1749.
##Another trans. is available from NRCC mi$0.50, ph$1.50 as NRCC C-3377, FRBC Trans-278, 1960, 4p.

DESCRIPTORS: *Fishes, *Marine biology, Physiology, *Taxonomy, Morphology, Bering Sea, Cod.

Contents:
##A review of the genus Lycenchelys Gill (Pisces, Zoarcidae) and related forms in the seas of the USSR and adjacent waters
An addition to the review of Lycenchelys Gill, with a description of three new species from the Kurilo-Kamchatkan trench
A new deep-sea fish of the eelpout family (Pisces, Zoarcidae) from the Bering Sea
A new fish of the lumpfish family (Pisces, Liparidae) found at a depth of more than 7 kilometers
Arctogadus Glacialis (Peters): a species of cod new to the fauna of the USSR from the drifting research station "North-Pole-6".

Andryashev, A. P.
ON THE TAXONOMIC POSITION OF THE SOUTH AFRICAN LYCOD (LYCODES AGULHENSIS ANDR., SP. N.) CONFUSED WITH THE ARCTIC SPECIES LYCODES FRIGIDUS COLL. (PISCES, ZOARCIDAE) BASED ON MATERIAL FROM THE SOVIET ANTARCTIC EXPEDITION) tr. by Laurence Penny. [1962] [6]p. (figs. omitted) 10 refs.
Order from OTS or SLA $1.10 63-15159

Trans. from Zoologicheskii Zhurnal (USSR) 1959, v. 38, no. 3 [p. 465-468].

DESCRIPTORS: *Taxonomy, *Fishes, Morphology, Geography, Africa, Arctic regions.

South African Lycodid fish which has been erroneously confused by recent authors with the Arctic species Lycodes frigidus Collett is described here as a new species, Lycodes agulhensis, based on the female, total length 452 mm from off the Agulhas Bank at a depth of 1,400 m. This new species well differs from L. frigidus by greater number of vertebrae, dorsal and anal rays, by the presence of the mediolateral line, by much shorter upper jaw, by larger scales distributed over anal and dorsal fins and the pectoral base, and by many other features. It is nearer to L. atlanticus Jensen, differing in the presence of distinct mediolateral line (absent in co-type of L. atlanticus according to A. S. Jensen and in some proportions.

Brodskii, K. A., ed.
THE COPEPOD FAUNA (CALANOIDA) AND ZOOGEOGRAPHICAL DIVISIONS OF THE NORTH PACIFIC AND ADJOINING WATERS; SELECTED PARTS, tr. by Donald A. Thomson. 1961 [79] p. 297 refs.
Order from OTS or SLA $7.60 63-15156

Partial trans. of mono. Fauna Veslonogikh Rachkov (Calanoida) i Zoograficheskoe Raionirovanie Severnof Chasti Tikhogo Okeana i Sopredel'nykh Vod, Moscow/Leningrad, 1957, 222 p.

DESCRIPTORS: *Crustacea, *Marine biology, Plankton, *Pacific ocean, Analysis, Geography, Distribution, Oceanography.

A new method of zoogeographical analysis of the poorly studied groups is presented in which Calanids are considered as occurring in distinct polulations which are further characterized not only by their qualitative composition but by quantitative data. A system of vertical zonation based on the vertical distribution of Calanids is proposed for the Far Eastern seas which, in the author's opinion, reflects the zonation existing in all oceans. Also, a question is posed concerning types of marine basins with regard to the character of the vertical migration of plankton.(Author)

Filippova, N. A.
LARVAE AND NYMPHS OF TICKS OF THE SUBFAMILY ORNITHODORINAE (IXODOIDEA, ARGASIDAE) IN FAUNA OF THE SOVIET UNION (Lichinki i Nimfy Kleshchei-Ornitodorin Ilxodoidea, Argasidae) Fauny Sovetskogo Soiuza). [1962] 51 p. 12 refs. NIH no. 1-18-63
Order from OTS or DLA $5.60 63-15704

Trans. of Parazitologicheskii Sbornik (USSR) 1961, v. 20, p. 148-182.

DESCRIPTORS: *Morphology, *Ticks, Insects, *Taxonomy.

This aims to give an opportunity to determine tick species of the bubfamily Ornithodorinae for the larval and nymph phases and to determine the stages of the nymph phase. (Author)

Ishkov, A.
PROBLEMS OF FISHING INDUSTRY DEVELOPMENT. 15 Mar 63 [8]p. JPRS: 18150.
Order from OTS $0.50 63-21330

Trans. from Pravda, Moscow (USSR) 1963, 28 Jan, p. 2

DESCRIPTORS: *Fisheries, Fishes, *Marine biology, Production, Food, Economics.

Kun, M. S., Teplyi, D. L., and Astakhova, T. V.
THE CAUSES OF CARP DISEASE IN THE VOLGA DELTA (O Prichinakh Zabolevaniya Sazana v Del'te Volgi) NRCC Technical trans. 1055.
Order from NRCC $1.00 NRCC C-4301

Trans. of Voprosy Ikhtiologii (USSR) 1961, no. 17, p. 159-168.

DESCRIPTORS: *Carp, *Diseases, *Deltas, *Fishes, Microorganisms, Contamination, *Algae, Radiation effects, Marine biology.

Nikolskii, N.
IN ORDER TO CATCH MORE FISH (Chtob Bol'she Bylo Ryby). tr. by Milan A. Kravanja. 30 Oct 62 [3]p.
Order from OTS or SLA $1.10 62-33772

Trans. from Ekonomicheskaya Gazeta (USSR) 1962 [no. 36(57)] 1 Sep.

DESCRIPTORS: Fishes, Production, *Fisheries, Ships (Nonmilitary), Economics, Food.

Svärdson, Gunnar.
STUDIES ON THE RELATIONSHIP BETWEEN SEXUAL MATURATION AND GROWTH IN LEBISTES (Studien über den Zusammenhang zwischen Geschlochtsreife und Wachstum bei Lebistes). 1959 [35]p. FRBC Trans. series 126
Order from NRCC

Trans. of Statens Undersöknings- och Försöksanstalt för Sotvattenfisket. Meddelanden (Sweden) 1943, no. 21, p. 1-48.

DESCRIPTORS: *Fishes, Growth, *Reproduction, Morphology, Sex glands, Hormones, Ecology.

Voronin, L. G.
COMPARATIVE-PHYSIOLOGICAL DATA ON THE FUNCTION OF THE RETICULAR FORMATION. [1962] [16]p. 19 refs.
Order from OTS or SLA $1.60 62-20308

Trans. of #Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1961, v. 11, no. 5, p. 795-805.

DESCRIPTORS: *Brain, Animals, *Evolution, Nervous systems, Cerebral cortex, *Neuromuscular transmission, *Thalamus.

Reticular formation in a number of vertebrates exerts a generalized influence on the higher divisions of the brain. This indiscriminate activation of other divisions of the brain differs in degree of intensity as between lower levels (fish, amphibians, reptiles) and higher vertebrates.

Voytkevich, A. A.
THE DEVELOPMENT OF THE NEURO AND ADENOHYPOPHYSIS IN FROG LARVAE. [1962] [20]p. (figs. omitted) 17 refs. FASEB manuscript no. S 29-2.
Order from OTS or SLA $1.60 63-15431
figs. available on loan from OTS

Trans. of Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1962, v. 42, no. 2, p. 69-82.

DESCRIPTORS: *Embryology, *Frogs, Epithelium, Nervous system, *Pituitary gland, *Pineal gland, Morphology, Thalamus.

Yudin, B. S.
ECOLOGY OF SHREWS (GENUS SOREX) OF WESTERN SIBERIA. 6 Mar 63 [146]p. 99 refs. JPRS: 17973.
Order from OTS $2.75 63-21257

Trans. of Akademiya Nauk SSSR. Biologicheskii Institut, Novosibirsk. Trudy, 1962, v. 8, p. 33-134.

DESCRIPTORS: *Ecology, *Insectivora, *Siberia, Climatology, Distribution, Geography, Forestry, *Trees, Wind, Rivers, Temperature, Soils, *Reproduction, *Adaptation (Physiology), *Parasites, Economics, Pest control, Food, Animals.

CHEMISTRY

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 109 (CHEMISTRY SERIES). 20 Mar 63 [18]p. JPRS: 18249.
Order from OTS $0.50 63-21372

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and Hungary.

DESCRIPTORS: *Abstracts, Bibliography, *Chemistry, *Radiochemistry, *Chemical analysis, Organic compounds, *Physical chemistry, *Biochemistry, *Electrochemistry.

JOURNAL OF GENERAL CHEMISTRY, 1945, VOL. 15, NO. 3: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 8p. 6 refs.
Order from OTS or SLA $1.10 62-10854

Abstract trans. of Zhurnal Obshchei Khimii (USSR) 1945, v. 15, no. 3, p. 142-149, 165-188, 252-258.
##Complete translations of p. 165-168 and 173-176 are available from SLA as RT-1444 and RT-1008.

DESCRIPTORS: *Chemistry, *Abstracts, Molecular isomerism, Methyl ethers, Hydroxides, Naphthalenes, Quinones, Catalysts, Catalysis, Chemical reactions, Nitrogen compounds, Oxides, Ethyl ethers, Reaction kinetics, Styrenes, Polymerization, Rubber, Oxidation, Propionic acids, Bromides, Esters, Nicotinic acid.

Contents:
Isomerization of dimethyl ether of 1, 4-dihydro-α-naphthohydroquinone, by A. P. Terent'ev and P. P. Shavalova
Dependence of the rate of catalytic reactions upon the amount of catalyst used, by M. A. Grekhnev and I. G. Eroshevskii
##Action of nitrogen oxides on unsaturated ethers. II. Action of N_2O_3 on ethyl allyl ether, by N. Ya. Maslov
Retarding effect of some substances on dehalogenation, by N. A. Domnin
##Polymerization of styrene in high frequency current, by N. V. Shorygina and E. I. Petrova
Structural changes in rubber caused by the action of molecular oxygen, by B. Dogadkin
Investigation of esters of α, β-dibromopropionic acid, by A. V. Ipatov
Syntheses from anabasine. I. A practical method of preparation of nicotinic acid from anabasine, by A. Sadykov
Syntheses from anabasine. II. Some derivatives of nicotinic acid, by A. Sadykov.

JOURNAL OF GENERAL CHEMISTRY, 1945, VOL. 15, NO. 4/5: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 5p. 14 refs.
Order from OTS or SLA $1.10 62-10855

Abstract trans. of Zhurnal Obshchei Khimii (USSR) 1945, v. 15, no. 4/5, p. 332-340 and 363-366.

DESCRIPTORS: *Chemistry, *Abstracts, Bromides, Phthalic acids, Imides, Molecular structure, Synthesis (Chemistry), Hydrogenation, Molecular isomerism, Benzenes, Butyl radicals, Calcium, Ammonium radicals.

Contents:
Bromophthalimide, its structure and application in organic syntheses, by N. I. Putokhin
Hydrogenation of isomers of butylbenzene with calcium-ammonium, by S. I. Khromov and Z. A. Rumyantseva.

[TRANSACTIONS (REPORTS) OF THE ACADEMY OF SCIENCES OF THE USSR] 1946, VOL. 52, NO. 2: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 2p. 1 ref.
Order from OTS or SLA $1.10 62-10808

Abstracts trans. of [Akademiya Nauk SSSR]. Comptes Rendus (Doklady) de l'Academie des Sciences de l'U. R. S. S., 1946, v. 52, no. 2, p. 131-138.

DESCRIPTORS: *Chemistry, *Abstracts, Metals, Chemical reactions, Oxidation, Catalysts, Catalysis Ketones, Hydrogen, Disproportionation.

Contents:
Specific effect of small additions of heavy metals on the course of catalytic oxidation, by N. I. Kobozev and I. A. Zubovich
Catalytic dismutation of hydroaromatic ketones, by A. P. Terent'ev and A. N. Guseva.

Analytical Chemistry

Babko, A. K. and Vasilenko, V. T.
COMPARAISONS DES RÉACTIFS UTILISÉS POUR LE DOSAGE COLORIMÉTRIQUE DE ZIRCONIUM. II. pH OPTIMUM ET SPÉCIFICITE DES RÉACTIFS [Comparison of Reagents for the Colimetric Determination of Zirconium. II. Optimum pH and the Specificity of Reagents] tr. by Mme. Roth. 28 Apr 62 [16]p. 3 refs. CEA Trans. no. R1620 (text in French).
Order from OTS or SLA $1.60 62-33729

Trans. in French of Ukrain[skii] Khim[icheskii] Zh[urnal] (USSR) 1961, v. 27, no. 3, p. 396-402.

DESCRIPTORS: *Zirconium, *Titanium, *Aluminum, *Colorimetry, Hydrogen ion concentration, Chemical reagents, Complex compounds.

Nous avons examiné la valeur du pH optimum et de la spécificité de la réaction en tant que critères de comparaison des réactifs du zirconium. Nous avons étudié la variation de la coloration de 16 réactifs et des complexes qu'ils forment avec le zirconium, le titane, et l'aluminium, en fonction du pH de la solution. (Author)

Fedoseev, P. N. and Pavlenko, M. M.
THE DETERMINATION OF CARBON AND HYDROGEN IN THE PRESENCE OF CATALYSTS, PT. I [Opredelenie Ugleroda i Vodoroda v Prisutstvii Katalizatorov, I]. 26 June 62 [8]p. 5 refs.
Order from OTS or SLA $1.10 62-18978

Trans. of Zhur[nal] Anal[iticheskoi] Khim[ii] (USSR) 1950, v. 5 [no. 5] p. 296-299.
Another trans. is available from ATS as RJ-41.

DESCRIPTORS: *Carbon, *Hydrogen, Determination, Organic compounds, Catalysts, Quantitative analysis

Gaspric, Jiri and Vercera, Miroslav.
INDENTIFICATION OF ORGANIC COMPOUNDS. XIV. SEPARATION AND IDENTIFICATION OF ALIPHATIC ALDEHYDES AND KETONES (PAPER CHROMATOGRAPHY). [1962] 11p.
Order from K-H $13.75 K-H 6818

Trans. of Chem[icke] Listy (Czechoslovakia) 1957, v. 51, p. 287-291.

DESCRIPTORS: Separation, Indentification, *Organic compounds, *Aliphatic compounds, *Aldehydes, *Ketones, Paper chromatography, *Chromatographic analysis.

Grynberg, Halina and Jarnuszkiewicz, Hanna.
DETERMINATION OF ALDEHYDES IN GLYCEROL BY CHROMATOGRAPHY (Ilosciowa Chromatograficzna Metoda Oznaczania Aldehydow w Glicerynie) tr. by W. Kulerski. 1962 [14]p. 9 refs. PL-480 Agr.
Order from OTS $0.50 61-11383

Trans. of Prace Instytutow i Laboratoriow Badawczych Przemyslu Spozywczego (Poland) 1958, v. 8, no. 5, p. 55-66.

DESCRIPTORS: *Glycerols, *Aldehydes, Determination, *Chromatographic analysis, Quantitative analysis, Colorimetry, Hydrazones, Phenyl radicals.

A chromatographic method was devised for determining aldehydes in glycerol. The aldehydes are precipitated as phenylhydrazones, and separated on acetylated paper. The spots are extracted, the phenylhydrazones are determined colorimetrically, and the aldehyde contents are calculated from calibration curves. The method, tested on standards, enables amounts of 0.3 - 30 γ of aldehydes in samples to be determined. The method accuracy varies with the aldehydes, and is highest for formaldehyde, and lowest for glyceraldehyde (scattering is +0.5% -4.5%). Reproducibility of results and accuracy of the method were checked and found satisfactory (error -2% +4%). With mixtures of butyraldehyde and glyceraldehyde the error of determination was 0.0% + 1.53%. (Author)

Hayashi, Akira.
ON THE ACTION OF BONDED SUBSTANCE ON CHROMATOGRAMS. Rept. 9 of Study on the Chemical Combination Between Lignin and Carbohydrate. May 62, 8p. FPRB Trans. no. 153.
Order from NRCC NRCC C-4294

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1961, v. 35, p. 80-83.

DESCRIPTORS: *Lignin, *Carbohydrates, Separation, Chemical bonds, *Paper chromatography.

Hoffmann, E. G. and Tornau, W.
DETERMINATION OF "ZIEGLER ACTIVITY" OF ORGANIC ALUMINUM COMPOUNDS BY PHYSICAL MEASUREMENTS. II. CALORIMETRIC TITRATION. [1962] 16p. 13 refs.
Order from SLA $1.60 63-10018

Trans. of Zeitschrift für Analytische Chemie (West Germany) 1962, v. 188, no. 5, p. 321-334.

DESCRIPTORS: *Aluminum compounds, *Organic compounds, Titration, Calorimeters, Heat of formation.

The use of a titration method for the thermometric measurement of contents determinations of organic aluminum compounds with an automatic recording device is described. The following may be used as titration reactions: formation of molecular compounds with ethers and tertiary amines as well as solvolysis with alcohols, whereby it is possible to determine several substances simultaneously by use of certain titrants. When primary alcohols are used, a simple relative method, which is independent of the weighed sample and the titrant, results; this is due to the separate measurement of the first and second alcoholysis step. The slope of the titration curve at the beginning of the titrant addition is a measure for the magnitude of the heat effect of the reaction and was used for its determination. The method is self-calibrating as far as the concentration is concerned; therefore, active impurities, which cannot be avoided with highly air-sensitive substances, will not falsify the results. As an example, enthalpy changes during the formation of the triethylaminates of some alkylaluminum compounds were determined. (Author)

Kluh, Ivan; Dolezal, Jan, and Zyka, Jaroslav.
RAPID REDUCTOMETRIC DETERMINATION OF MANGANESE IN ALLOYS AND MINERALS. Jan 62 [7]p. 10 refs.
Order from SLA $1.10 62-20025

Trans. of Z[eitschrift für] Analytische Chem[ie] (West Germany) 1960, v. 177, p. 14-20.

DESCRIPTORS: *Manganese, Determination, *Alloys, *Minerals, Reduction (Chemistry).

A new volumetric method for the determination of manganese is developed, which is based on the oxidation of the manganese with potassium bromate in the presence of concentrated phosphoric acid and on the reductometric titration of the resulting trivalent manganese with iron (II) solution or hydroquinone solution as standard liquid. The titration can be carried out potentiometrically, or visually with diphenylamine as indicator. The process yields exact results which agree with the theoretical values. The applicability of the method for the analysis of manganese ore, ferromanganese and manganese bronze is shown.

Lu, Pei-chzhan.
DEGRÉ DE SEPARATION CHROMATOGRAPHIQUE ON PHASE GAZEUSE (O Kriteriyakh Razdeleniya Khromatografii v Gazovoi Faze) [On Separation Criteria in Gas-Phase Chromatography] tr. by Mme. Authier. 30 Mar 62 [32]p. (Russian text included) 9 refs. CEA Trans. no. R 1589 (text in French).
Order from OTS or SLA $3.60 62-33727

Trans. in French of Sci[entia] Sinica (Chinese People's Republic) 1961, v. 10 [no. 1] p. 70-83.
A trans. in English is available from ICE in v. 2, no. 4, $15.00/year; available in Russian from OTS or SLA $1.60 in 61-27851.

DESCRIPTORS: *Material separation, *Gas chromatography, Standards, Theory.

Pasechnikov, N. S.
METHOD FOR DETERMINATION OF ADDITIVES CONCENTRATION IN DIESEL OILS. [1962] 8p. 2 refs.
Order from OTS or SLA $1.10 62-18381

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1961 [v. 6] no. 9, p. 65-69.

DESCRIPTORS: *Fuel oil, *Additives, Decomposition, Determination.

Schmuk, A. and others.
THE PHYTIN CONTENT OF TOBACCO SEEDS. [1962] 8p.
Order from K-H $10.00 K-H 3954 k

Trans. from mono. State Institute of Tobacco Investigation Symposium of Treatises on the Chemistry of Tobacco (no. 2) 1931.

DESCRIPTORS: *Tobacco, *Seeds, Chemical analysis.

Waksman, Selman A.
THE CHEMICAL COMPOSITION OF PEAT COMPONENTS AND KINDS OF PEAT AND THEIR METHODS OF INVESTIGATION (Die Chemische Zusammensetzung von Torfbildern und Torfarten und ihre Untersuchungsmethode). [1962] [19]p. (foreign text included) 18 refs.
Order from SLA $1.60 63-10059

Trans. in manuscript of Brennstoff-Chemie (Germany) 1930, v. 11, no. 14, p. 277-281.

DESCRIPTORS: *Peat, Chemical analysis, Organic materials, Plants, Decomposition.

Vecera, M.
CATALYTIC RAPID COMBUSTION IN ORGANIC ELEMENTAL ANALYSIS. 21 June 62 [9]p. 16 refs.
Order from SLA $1.10 62-20192

Trans. of Acta Chim[ica] (Hungary) 1961, v. 26, p. 511-518.

DESCRIPTORS: *Organic compounds, *Combustion, Catalysts, Chemical analysis.

The existence of vapor surges with an oxygen deficiency is characteristic of rapid combustion in organic elemental analysis. In a catalyst suitable for continuous operation, reduction and oxidation at the surface must be reversible. A detailed study of various types of catalysts showed that Co_3O_4 was the best of the substances tested for rapid combustion. The flash combustion produced in this way makes possible a simple automation. (Author)

Inorganic Chemistry

JOURNAL OF INORGANIC CHEMISTRY, 1956, VOL. 1, NO. 9. 1962, 269p. PL-480 AEC.
Order from OTS $3.75 AEC-tr-4590

Trans. of Zhurnal Neorganicheskoi Khimii (USSR) 1956, v. 1, no. 9, p. 1937-[2171].

DESCRIPTORS: Chemistry, *Alkaline earth oxides, *Silicates, Oxalic acids, *Thorium compounds, Bromides, *Rare earth elements, Transition elements, *Vanadium compounds, Sulfates, *Arsenates, *Chromium compounds, Anhydrides, *Tartrates, Complex compounds, *Aluminum compounds, *Antimony compounds, *Sodium compounds, *Silver compounds, *Indium compounds, *Ammonia, *Nickel compounds, *Copper compounds, *Molybdates, *Magnesium compounds, Cyanides, *Rubidium, *Cesium, *Lead compounds, Chlorides, Iodides, *Crystal structure, *Gold alloys, *Silver alloys, *Hall effect, *Potassium compounds, Nitrates, Fluorides, *Lithium compounds, *Cadmium compounds, *Beryllium compounds, *Cobalt compounds, Antimonides, *Calcium compounds, Ferrites, Aluminates, *Iron alloys, *Chromium alloys, *Nickel alloys, *Tungsten alloys, *Aluminum alloys, *Titanium compounds, Carbides, *Boron compounds, *Zinc, *Radium, *Isotope separation, *Iron compounds, Sulfides.

Contents:
A study of the synthesis of superoxides of alkaline-earth metals, by I. I. Vol'nov and others
The decomposition of silicates by oxalic acid, by N. A. Tananaev and S. I. Smyshlyaev
The reduction of thorium tetra-bromide by hydrogen, by S. A. Shchukarev and others
"Anomalous" valencies of rare-earth elements in processes of their separation, by D. I. Ryabchikov and others
The formulas of thermodynamically stable mixed binary compounds of elements of the b-subgroups, by S. M. Ariya and others
Synthesis and properties of vanadyl sulfate, by S. P. Onosova and V. L. Zolotavin
Solubility products of arsenates, by V. G. Chukhlantsev
Optical properties of solutions of chromic anhydride in sulfuric acid, by K. B. Yatsimirskii and V. N. Vasil'eva
The mechanism of the formation of tartrate complexes in alkaline media, by M. E. Tsimbler
Molecular compounds of aluminum bromide with antimony, sodium, and silver bromides, by E. Ya. Gorenbein and G. V. Ruchko
Study of solutions of indates, by N. V. Aksel'rud and V. B. Spivakovskii
Physicochemical analysis of aqueous solutions of ammonia complexes of nickel and copper, by K. B. Yatsimirskii and others
Polymorphism of orthomolybdates of alkali elements, by I. M. Kuleshov

Mixed ferrocyanides of magnesium with rubidium and cesium, by I. V. Tananaev and G. B. Seifer

Equilibria in the system ammonium bifluoride - ammonium chloride - water at 25°, by A. K. Zhdanov

The system $PbCl_2$ - PbI_2, by T. Sumarokova and T. Modestova

Modern crystallochemical aspects of the N. S. Kurnakov theory of daltonides and berthollides, by E. S. Makarov

Electrical resistance and hall effect of gold-silver alloys, by N. V. Grum-Grzhimailo

Exchange reactions in a quinary system of nine salts Na, K. Ag/Cl, Br, NO_3, by N. S. Dombrovskaya and E. A. Alekseeva

Thermal and X-ray phase analysis of the KF - BeF_2 system, by M. P. Borzenkova and others

The ternary system composed of lithium, potassium, and cadmium sulfates, by A. G. Bergman and E. L. Bakumskaya

Solubility in the systems LiCl-$AlCl_3$ - H_2O and $BeCl_2$-$AlCl_3$ - H_2O at 25°, by V. P. Blidin

A physico-chemical investigation of cobalt antimonides, by L. D. Dudkin and N. Kh. Abrikosov

An investigation of the system calcium ferrite-aluminate, by N. A. Toropov and A. I. Boikova

A study of the alloys of the system iron - chromium - nickel - tungsten - titanium - aluminum, by V. S. Mikheev

Electric conductivity of binary systems formed by refractory oxides, by V. N. Eremenko and A. M. Beinish

The reaction between titanium carbide and metals of the iron group, by V. N. Eremenko

Phase composition of the boron-carbon system, by V. A. Epel'baum and others

Reactions of salts with metals in the molten state. The reaction between silver chloride and zinc, by A. P. Palkin and N. A. Shchirova

The use of sodium ethylenediamine-tetraacetate (trilon b) for radium determination by emanation, by V. I. Spitsyn and others

Methods for the separation of carrier-free radioactive isotopes, by N. P. Rudenko and Z. V. Pastukhova

Formation of ferrous sulfide by the reaction of pyrite with cast iron turnings, by Zh. L. Vert and M. V. Kamentsev

JOURNAL OF INORGANIC CHEMISTRY, 1956, VOL. 1, NO. 10. 1962, 281p. PL-480 AEC.
Order from OTS $3.75 AEC-tr-4591

Trans. of Zhurnal Neorganicheskoi Khimii (USSR) 1956, v. 1, no. 10, p. 2177-[2430].

DESCRIPTORS: *Chemistry, *Uranyl radicals, Acetates, *Iron compounds, Oxides, *Zinc compounds, *Cadmium compounds, Hydroxides, *Ammonium compounds, Borates, *Molybdenum compounds, Sulfides, Vanadium compounds, Phosphates, *Boric acids, *Uranium compounds, *Germanium, *Barium compounds, Silicates, *Rare earth elements, *Selenium compounds, *Complex compounds, *Chromium compounds, *Cobalt compounds, Oxalates, *Titanium compounds, Salicylates, *Beryllium compounds, *Platnium compounds, Chlorides, *Iron, *Platinum, *Iridium, *Magnesium compounds, *Nickel compounds, *Copper compounds, *Ammonia, *Amines, *Chemical bonds, *Aspartic acids, *Crystal growth, *Lithium compounds, Tungstates, *Minerals, *Copper, *Electrolytic polishing, Carbonates.

Contents:

A study of the precipitation of uranyl ions by potassium ferrocyanide, by G. A. Kleibs

A study of the precipitation of reaction of uranyl acetate with sodium ferrocyanide, by G. A. Kleibs

Chemistry of compounds of variable composition. v. chemical structure of ferrous oxide from data on magnetic properties of iron oxides at high temperatures, by S. M. Ariya and G. Grossmann

A study of the formation reaction of zinc hydroxide, by I. V. Tananaev and N. V. Mzareulishvili

A study of the formation reaction of cadmium hydroxide, by I. V. Tananaev and N. V. Mzareulishvili

The molecular refraction of inorganic compounds, by Yu. M. Shashkov and T. P. Kolesnikova

Ammonium pentaborate, by A. F. Ievin'sh and others

The melting point of molybdenite, by A. N. Zelikman and L. V. Belyaevskaya

Studies on the oxidation of molybdenite, by A. N. Zelikman and L. V. Belyaevskaya

The determination of the solubility product of vanadyl phosphate, by V. L. Zolotavin and V. K. Kuznetsova

The preparation and some properties of thorium hexaboride, by G. V. Samsonov and O. N. Zorina

Studies on the properties of dihydroxyfluoroboric acid, by I. G. Ryss and L. P. Bogdanova

Determination of the saturated vapor pressure of UCl_4 and the disproportionation pressure of $UOCL_2$, by S. A. Shchukarev and others

The volatility of germanium in gas currents, by V. G. Tronev and M. E. Chibireva

The conditions of formation of barium silicates, by E. K. Keler and V. B. Glushkova

Ion-exchange separation of the activities of rare-earth elements without a pH-Meter, by B. K. Preobrazhenskii and others

The solubility products of some metal selenites, by V. G. Chukhlantsev

The calculation of stability constants for stepwise complex formation by the study of physico-chemical properties of solutions, by K. B. Yatsimirskii

The stability of acetate complexes of bivalent chromium, by K. B. Yatsimirskii and T. I. Fedorova

Study of complex cobalt oxalates by means of anion exchange, by V. V. Fomin and V. V. Sin'kovskii

Complex salicylates of titanium, by B. N. Sudarikov and L. M. Smirnov

Influence of the solvents on the composition and stability of complex ions; 2: Polarographic study of chloride complexes of cadmium in aqueous solutions of dioxane, by Ya. I. Tur'yan

The reaction of beryllium oxyacetate with beryllium oxymonochloroacetate, by A. V. Novoselova and K. N. Semenenko

The stability of $[Pt(Thio)_4]Cl_2$ in neutral and alkaline solutions and the strength of the base $[Pt(Thio)_4](OH)_2$, by A. A. Grinberg and A. I. Stetsenko

Volumetric determination of iron, platinum, and iridium in the presence of each other, by A. A. Grinberg and A. I. Dobroborskaya

The relative stability of tartaric acid complexes of manganese, cobalt, nickel, and copper in alkaline solutions, by I. V. Pyatnitskii

The nature of the chemical bond in ammonia and amine addition products of metallic salts, by A. V. Ablov

The complex compounds of chromium and aspartic acid, by L. M. Volshtein and others

Polarographic study of complex compounds of cadmium with some α-amino acids, by A. I. Kostromin and V. A. Vekslina

The formation of anomalous mixed crystals, by A. V. Kirgintsev
Studies on the dehydration and thermal decomposition of lithium silico-tungstate, by V. I. Spitsyn and I. D. Kolli
The polymorphic modifications of tridymite, by N. N. Sinel'nikov
Determination of the structure of multi-component reciprocal systems with three ions of the same sign, by F. M. Perel'man
Reaction products in electrochemical polishing of copper in H_3PO_4, by S. I. Krichmar and V. P. Kalushko
Carbonate compounds of iron, by L. M. Zaitsev
Theses read at the Council of the Chemical Faculty of Tomsk State University, by Yu. P. Kazadaeva
Theses read at the Institute of General and Inorganic Chemistry, im. N. S. Kurnakov during the first six months of 1956, by N. N. Evseeva
Convention of Austrian and German chemists in Salzburg, by M. A. Klochko

PRODUCTION OF LITHIUM COMPOUNDS FROM MINERALS: PREPARATION FROM SILICATES. 6 May 57, 2p. 11 refs.
Order from SLA $1.10 62-20199

Trans. of Gmelins Handbuch [der Anorganischen Chemie] (Germany) n. d. [system] "lithium", p. 20.

DESCRIPTORS: *Lithium compounds, *Minerals, Production, *Silicates, Preparation.

Moissan, Henri.
LITHIUM CARBIDE. [1962] 3p.
Order from SLA $1.10 62-18669

Trans. of [Academie des Sciences, Paris]. Compte[s] Rend[us] (France) 1896, v. 122, p. 362-363 (pub. by Gauthier-Villars et Cie., Paris).

DESCRIPTORS: *Lithium compounds, *Carbides, Preparation, Chemical properties, Chemical analysis.

[Ostroushko, Yu. I.]
CHIMIE DU LITHIUM ET DE SES COMPOSÉS. PROPRIETÉS PHYSICO-CHIMIQUE DU LITHIUM [Chemistry of Lithium and It's Compound: Physico-Chemical Properties of Lithium] tr. by Bavtalovsky. 30 Mar 62 [96] p. 128 refs. CEA Trans. no R 1593 (text in French)
Order from OTS or SLA $8.60 62-33766

Trans. in French of mono. [Litti, Ego Khimiya i Tekhnologiya] Le Lithium, Sa Chimie, Sa Technologie [Lithium, Its Chemistry and Technology] Moscow, [1960] Chap. 2, p. 34-74.
A complete trans. of the mono. in English is available from OTS $3.50 as AEC-tr-4940, July 62, 276 p.

DESCRIPTORS: *Lithium, Lithium compounds, Physical properties, Chemical properties, Hydrides, Oxides, Nitrogen compounds, Carbon compounds, Halogens, Sulfur compounds, Phosphorus compounds, Silicon compounds.

Samartseva, A. G.
INVESTIGATIONS OF THE CHEMISTRY OF POLONIUM. PART I. COMPOUNDS OF DIVALENT POLONIUM, tr. by E. Rabinowitch. Rept. on Contract W7401-eng-37. 7 Dec 45, 71p. [ANL] CC-3356.
Order from OTS or SLA $7.60 AEC-tr-370

Trans. of [Akademiya Nauk SSSR. Radievyi Institut. Trudy] 1938, v. 4, p. 253-[303].

DESCRIPTORS: *Polonium, Chemistry, Polonium compounds, *Tellurium, Separation, Sodium compounds, Tellurides, Crystals, Methyl radicals, Electrochemistry, Colloids, Valence.

A study was made of the adsorption of Po on glass in acid and alkaline media over a range of concentrations. Quantitative separation of Te and Po by hydrazine hydride was found to be possible but only in 4.1 to 4.3N hydrochloric acid, and under very careful conditions of experimentation, which require vigorous stirring after the addition of each drop of reagent, and avoiding an excess of the reagent. It was shown that polonium, in its distribution between Na_2Te crystals and saturated solution, follows the law of Nernst and Berthelot. This indicates that it forms isomorphous mixed crystals with Na_2Te by replacing Te anion in this compound. This, in turn, proves the existence of Na_2Po aq. molecules, and confirms the hypothesis that Po can exist in the divalent state. The replacement of both Na atoms in $Na_2Te(Po)$ by benzyl radicals, and the preparation of volatile $(CH_3)_2Po$, further confirm the existance of divalent polonium. (Author)

Organic Chemistry

METHOD FOR THE PRODUCTION OF ALKYL BENZENESULFONATES WHICH ARE MORE READILY DEGRADABLE BY BIOLOGICAL METHODS. [1962] [13]p.
Order from OTS or SLA $1.60 62-20447

Trans. of Belgian patent 607, 198, 14 Aug 61, appl. filed in German Federal Republic under no. R 28, 567 IVb/120, 18 Aug 60 and under no. R 30, 890 I VI/120 (addition) 7 Aug 61, by Rheinpreussen Aktiengesellschaft für Bergbau und Chemie.

DESCRIPTORS: Synthesis, *Benzenes, *Sulfonates, *Alkyl radical, Methanes

A process for producing alkyl benzenesulfonates which are readily degradable by biological methods by the reaction of alkyl benzenes with sulfuric acid and a subsequent neutralization, characterized by the following points: (1) As small as possible an excess of sulfuric acid, not exceeding 150%, is used for sulfonation with a sulfuric acid, the H_2SO_4 content of which ranges from 96 to 105% at temperatures of sulfonation of about 60°-95°C. (2) Sulfonation is begun at a temperature of about 60°-75°C and is completed at a temperature of 80°-95°C. (3) During sulfonation of tetrapropylene benzene, various aromatic alkyl compounds are added in amounts of 0.1 to 5% by weight. (4) A tetrapropylene benzene of narrow cut is subjected to sulfonation, the boiling points of which are within a narrower temperature range, between about 285° and 295°C (at a pressure of 760 mm Hg). (5) When tetrapropylene benzene of narrow cut is used, an excess of monohydrated acid

(H_2SO_4 100%) amounting possibly to 200% is used, and the sulfonation is carried out at temperatures not above 60°C. (6) The reaction mixture is subjected during sulfonation to a vigorous mixing by using vibrators. (Author)

POLYMERIZATION OF ETHYLENE IN AN AQUEOUS SYSTEM. [1962] 9p.
Order from OTS or SLA $1.10 62-18661

Trans. of Belgian patent 611,102 by Spencer Chemical International, Inc., Panama, filed 4 Dec 61, granted 4 June 62.

DESCRIPTORS: *Ethylenes, *Polymerization, Water, Carboxylic acids, Acrylic acid.

Barbieri, R[enato], Tagliavini, G[iuseppe], and Bellugo, U[mberto].
ANALYSIS OF ORGANOMETALLIC COMPOUNDS. DITHIZONATES OF R_3PbCl AND R_2PbCl. [1962] 10p.
Order from K-H $12.50 K-H 11171a

Trans. of [Ia] Ri[cerca] Sci[entifica] (Italy) 1960, v. 30, no. 12, p. 1963-1968.

DESCRIPTORS: Chemical analysis, *Metalorganic compounds, *Dithizone, *Lead compounds, Chlorides.

Bardamova, M. I.
COMPLEX FORMATION BETWEEN ORGANIC HALOGEN COMPOUNDS AND OXYGEN-CONTAINING ORGANIC SUBSTANCES. [1963] 5p.
Order from ATS $8.00 ATS-79Q66R

Trans. of Akad[emiya] Nauk SSSR. Sibirsk[oe] Otd[elenie]. Izv[estiya] 1960, no. 2, p. 71-75.

DESCRIPTORS: *Organic halides, *Oxygen, *Organic compounds, Halogens, Chemical reactions, Complex compounds.

Bellugo, Umberto; Tagliavini, Giuseppe, and Barbieri, Renato.
CONTRIBUTION TO THE ANALYSIS OF ORGANOMETALLIC COMPOUNDS OF LEAD. [1962] 9p.
Order from K-H $11.25 K-H 11005

Trans. of La Ricerca Scientifica (Italy) 1960, v. 30, no. 11, p. 1675-1679.

DESCRIPTORS: Chemical analysis, *Metalorganic compounds, *Lead compounds.

Berlin, A. A.
POLYMERS WITH A SYSTEM OF CONJUGATED BONDS AND HETEROATOMS IN THE CONJUGATED CHAIN. [1963] 19p.
Order from ATS $19.75 ATS-08Q67R

Trans. of Khim[iya] i Tekhnol[ogiya] Polimerov (USSR) 1960 [v. 4] no. 7/8, p. 139-158.
Another trans. is available from OTS or SLA $4.60 as 61-16598 [1961] [44]p.

DESCRIPTORS: *Polymers, Synthesis, Physical properties, *Vinyl radicals, *Acetylenes, Polymerization.

Caprara, G. and Lemetre, G.
PHENOL AND CYCLOHEXANONE FROM CYCLOHEXYLBENZENE. [1962] 11p.
Order from K-H $1375 K-H 12005

Trans. of la Chimica e [l']Industria (Italy) 1960, v. 42, no. 9, p. 974-977.

DESCRIPTORS: *Phenols, *Cyclohexanones, *Benzenes, *Hexyl radicals.

Grzelewski, Leszek and Ciborowski, Stanislaw.
DETERMINATION OF BENZENE, TOLUENE AND XYLENES IN A MIXTURE (Oznaczanie Benzenu, Toluenu i Ksylenow w Ich Mieszaninie) tr. by J. Burchart. 1962 [16]p. 26 refs. PL-480 Agr.
Order from OTS $0.50 61-11384

Trans. of Przemysl Chemiczny (Poland) 1955, v. 11(34) no. 7, p. 375-380.

DESCRIPTORS: *Benzenes, *Toluenes, *Xylenes, Mixtures, Determination, Distillation.

The method described fulfils all the conditions required for a process analysis. The analysis takes no more than 35 minutes, calculations included. The accuracy -*0.4 percent - is sufficient for a process analysis. No special new apparatus is needed, and the analysis can be performed by a laboratory assistant because it consists in simple distillations. If a special set of tables is prepared, separate calculations of the corrections and of the results for each analysis can be avoided. (Author)

Hein, F.
ORGANOMETALLIC COMPOUNDS. [1962] 18p.
Order from K-H $22.50 K-H-6485

Trans. of Chemische Technik (East Germany) 1957, v. 9, p. 198-202.

DESCRIPTORS: *Metalorganic compounds.

Hock, H., Kropf, H., and Ernst, E.
THE MECHANISM OF AUTOXIDATION OF ORGANOMETALLIC. [1962] 17p.
Order from K-H $21.25 K-H 12385 b

Trans. of Angewandte Chemie (West Germany) 1959, v. 71 [no. 17] p. 541-545.

DESCRIPTORS: *Oxidation, *Metalorganic compounds.

Inoue, H., Hayashi, S. and others.
SYNTHESIS OF ELECTRICALLY CONDUCTIVE CHELATE POLYMERS. [1963] 9p.
Order from ATS $13.25 ATS-02Q67J

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 10, p. 1622-1626.

DESCRIPTORS: *Polymers, *Chelate compounds, Synthesis, Electrical conductance.

Kaltygina, V. P.
SYNTHÈSE DE STRYROLÈNE ET DE POLYSTYROLENE MARQUES AU 14C, tr. by Cohen. 27 Apr 62 [8]p. 5 refs. CEA Trans. no. R 1633 (text in French).
Order from OTS or SLA $1.10 62-33750

Trans. in French of mono Metody Polichimya i Izmeren. Radioact. Preparatov Sbornik Statei, SSSR, 1960, p. 166-169.

DESCRIPTORS: Polymers, *Styrenes, Synthesis, *Labeled substances, Carbon, Radioactive isotopes.

Kashima, Kan and Osada, Takeshi.
HIGH PRESSURE HYDROCRACKING OF LIGNIN. Rept. 1 of A Study of the High Pressure Hydrocracking of Lignin. [1962] 10p. (figs. tables omitted) 4 refs.
Order from SLA $1.10 62-20254

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 5, p. 916-919.

DESCRIPTORS: High pressure research, *Crazing, *Sulfate pulp, Chemical waste, *Lignin.

The best conditions for manufacturing samples suitable for hydrocracking from the sulfite pulp waste liquor were sought. High pressure hydrocracking was carried out by using these samples and employing phenol, cyclohexanol, tetralin as the solvents, and the reaction conditions, material balance and the composition of the oils produced were examined. Among the oils produced, it was discovered that the aromatic hydrocarbons of the neutral oils contain 6.6 per cent of o-xylene, 53.4 per cent of m-xylene, and 26.7 per cent of p-xylene. It was further learned that, when a hydrocracking of lignin with crude petroleum oil is carried out, the naphthene fraction in the crude petroleum is dehydrogenated and converted into an aromatic hydrocarbon. (Author)

Korshak, V. V., Vinogradova, S. V., and Valetskii, P. M.
MIXED POLYARYLATES FROM TEREPHTHALIC ACID, DIHYDROXYDIPHENYL PROPANE, AND ALIPHATIC POLYHYDRIC ALCOHOLS. Pt. 37 of Heterochain Polyesters. [1963] 8p.
Order from ATS $10.50 ATS-50Q67R

Trans. of Vysokomolekul[yarnye] Soedin[eniya] (USSR) 1962, v. 4, no. 7, p. 987-994.

DESCRIPTORS: *Esters, *Polymers, Synthesis, Terephthalic acid, Hydroxides, Phenols, Phenyl radicals, Propanes, Alcohols.

Kozlov, L. M., Burmistrov, V. I., and Khannanov, T. M.
EFFECT OF ULTRASOUND ON NITROPARAFFIN-CARBONYL CONDENSATION. 17 Dec 62 [7]p. 7 refs. FTD-TT-62-1261.
Order from OTS or SLA $1.10 63-15566

Unedited rough draft trans. of Khimiko-Tekhnologicheskii Institut, Kazan. Trudy (USSR) 1959, no. 26, p. 63-66.

DESCRIPTORS: Nitro radicals, *Methanes, *Propanes, *Carbonyl radicals, *Cyclohexanes, *Acetones, *Acetaldehydes, *Condensation reactions, *Ultrasonics.

It is shown that ultrasonics considerably accelerates nitroparaffin carbonyl condensation and simultaneously increases the yield of nitroalcohols. (Author)

Kunori, Masao.
REACTION OF INDOLE-2-CARBOXYLIC ACID AMIDE AND THIONYL CHLORIDE. [1962] 4p. 4 refs.
Order from SLA $1.10 62-18929

Trans. of Nihon Kagaku Zasshi (Japan) 1962, v. 83 [no. 7] p. 850-851.

DESCRIPTORS: *Indoles, *Carboxylic acids, *Amides, Synthesis, *Sulfonyl radicals, *Chlorides, Chemical reactions, Hydrolysis.

Lukina, M. Yu.
STRUCTURE AND REACTIVITY OF CYCLOPROPANE AND ITS DERIVATIVES. [1963] 42p.
Order from ATS $40.50 ATS-62P65R

Trans. of #Uspekhi Khim[ii] (USSR) 1962, v. 31, no. 8, p. 901-939.

DESCRIPTORS: *Molecular structure, *Propanes, Chemical reactions.

Matsumoto, Masaku and Imai, Kiyokazu.
INFRARED SPECTRA OF THE MODEL COMPOUNDS OF POLYVINYL ALCOHOL. [1962] [8]p. 6 refs.
Order from SLA $1.10 62-20090

Trans. of Kobunshi Kagaku (Japan) 1958, v. 15, p. 160-164

DESCRIPTORS: *Polyvinyl alcohol, *Infrared spectroscopy, Polymers, Chemical compounds, Chemical bonds.

Okamura, Seizo and Yamashita, Takao.
POLYMERIZATION IN THE PRESENCE OF POLYMERS, I. EMULSION POLYMERIZATION OF VINYL ACETATE IN THE PRESENCE OF POLYVINYL ALCOHOL. [1962] 11p. 7 refs.
Order from SLA $1.60 62-20089

Trans. of Kobunshi Kagaku (Japan) 1958, v. 15, p. 165-169.

DESCRIPTORS: *Polyvinyl alcohol, *Acetates, *Vinyl radicals, *Polymerization, Colloids, Polymers.

Pesta, Otto.
WORKING WITH COMPRESSED ACETYLENE. [1962] [8]p.
Order from SLA $1.10 62-20075

Trans. of Chem[isches] Forsch[ungsinstitut der Wirtschaft] Österr[eichs]. Mitteilungen (Austria) 1949, v. 3, p. 109-112.

DESCRIPTORS: *Acetylenes, Condensation reactions.

Piekos, R., and Wojnowski, W.
STUDY OF THE ALCOHOLYSIS OF SiS_2, PT. 2: PREPARATION OF TRIALKOXYSILANETHIOLS AND TETRAALKOXYCYCLODISILTHIANES FROM THE TERTIARY ALCOHOLS. [Feb 63] 5p.
Order from ATS $8.00 ATS-O9Q67G

Trans. of Z[eitschrift für] Anorg[anische] Chem[ie] (East Germany) 1962, v. 318, p. 212-216.

DESCRIPTORS: *Silicon compounds, *Sulfides, *Silanes, *Thiols, Preparation, *Alcohols.

Shatkina, T. N.
SYNTHESE DE COMPOSES ORGANIQUES MARQUÉS AU ^{14}C A PARTIR DE FORMALDEHYDE (Sintezy Organicheskikh Soedinenii Meckennykh C^{14}, na Osnove Formal'degida C^{14}) tr. by Cohen. 20 May 62 [23]p. (Russian text included) 7 refs. CEA Trans. no. R. 1634 (text in French).
Order from OTS or SLA $2.60 62-33749

Trans. in French of mono. Metody Polichimya i Izmeren. Radioact. Preparatov Sbornik Statei, SSSR, 1960, p. 159-165.

DESCRIPTORS: Organic compounds, *Glycols, *Butanols, *Acetylenes, *Furan, Synthesis, *Labelled substances, Carbon, Radioactive isotopes, *Formaldehyde, Copper catalysts, Chromium catalysts.

Shingu, H.
PRODUCTION AND APPLICATIONS OF PROPYLENE OXIDE. [1963] 13p.
Order from ATS $21.75 ATS-42P66J

Trans. of Yukagaku (Japan) 1959, v. 8, no. 8, p. 355-361.

DESCRIPTORS: *Epoxides, *Propenes, *Oxides, Production.

Shlyapnikov, O. A.
MECHANISM OF ACID DECOMPOSITION OF HYDROPEROXIDES, tr. by M. B. Cain. [1962] [18]p. 23 refs. DSIR NLL M3448.
Order from OTS or SLA $1.60 62-24960

Trans. of Kinetika i Kataliz (USSR) 1960, v. 1 [no. 3] p. 365-373.

DESCRIPTORS: *Peroxides, Acids, Decomposition, Theory, Reaction kinetics, Molecular isomerism, *Chain reactions.

The experimental data of several authors relating to the acid decomposition of hydroperoxides and the isomerisation of peresters are examined. The hypothesis of the present author and V. A. Skyshynov of the mechanism of acid decomposition of hydroperoxides as an ionic chain reaction is proved. Data on the kinetics of decomposition of several hydroperoxides under identical conditions are compared. (Author)

Shorygina, N. N. and Kefeli, T. Ya.
DISSOCIATION OF LIGNIN BY METALLIC SODIUM IN LIQUID AMMONIA, I (Rasshcheplenie Lignina Metallicheskim Natriem V Zhidkom Ammiake, I). [1962] 9p. 30 refs. [Warren Spring Lab. Trans.] NT 546; [DSIR] NLL M.4968.
Order from OTS or SLA $1.10 62-25894

Trans. of Zh[urnal] Obshch[ei] Khim[ii] (USSR) 1947, v. 17, no. 11, p. 2058-2065.

DESCRIPTORS: *Wood, *Lignin, Dissociation, Ammonia, Sodium.

On treatment of lignin that has been isolated from spruce wood with metallic sodium in solution in liquid ammonia, at least 89% of the lignin dissociates into low molecular weight substances. As a result of the dissociation there are obtained low molecular weight substances of neutral character, which are distilled in a vacuum, low molecular weight phenols, acids and also a considerable yield of substances that are soluble in water and alcohol but insoluble in ether. In addition there are obtained high molecular weight substances which are the products of partial dissociation of lignin. It follows from the first conclusion that the main type of linkage between the structural units in these types of lignin is the ether oxygen linkage -C-O-C. Lignin that has not been separated from wood undergoes a similar dissociation; but the yields of low molecular weight products obtained as a result of a single treatment of spruce sawdust with sodium in liquid ammonia are much higher than from isolated lignin. (Author)

Suzuki, K.
CHANGES IN THE PROPERTIES OF AMBERLITE IRA-401 (Cl) USED FOR DECOLORIZING SUGAR DURING LONG-TERM OPERATION. [1963] 11p.
Order from ATS $13.50 ATS-88Q66J

Trans. of Seito Gijutsu Kenkyukaishi (Japan) 1959, v. 8, p. 22-29.

DESCRIPTORS: *Ion exchange resins, *Bleaching, *Sucrose.

Thesing, Jan and Muller, Alfred.
CONCERNING A NEW METHOD FOR OBTAINING PYRIDONES AND THE SYNTHESIS OF NICOTELLINE, 1. [1962].
Order from K-H $31.25 K-H 10693 e

Trans. of Chem[ische] Ber[ichte] (West Germany) 1957, v. 90, no. 1, p. 711-723.

DESCRIPTORS: *Ketones, *Pyridines, *Alkaloids, Nicotine, Synthesis.

JOURNAL OF PHYSICAL CHEMISTRY, 1944, VOL. 18, NO. 10: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 3p. 1 ref.
Order from OTS or SLA $1.10 62-10838

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1944, v. 18, no. 10, p. 447-452 and 466-468.

DESCRIPTORS: *Physical chemistry, *Abstracts, Water, Evaporation, Surface-active substances, Films, Selenium compounds, Dioxides, Vapor pressure.

Contents:
Effect of films of surface-active substances on the rate of evaporation of water and aqueous solutions, III, by S. I. Sklyarenko and others
Pressure of saturated vapors of selenium dioxide, by A. G. Amelin and M. I. Belyakov.

JOURNAL OF PHYSICAL CHEMISTRY, 1944, VOL. 18, NO. 11/12: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 3p. 1 ref.
Order from OTS or SLA $1.10 62-10839

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1944, v. 18, no. 11/12, p. 527-546.

DESCRIPTORS: *Physical chemistry, *Abstracts, Calcium compounds, Oxides, Sorption, Silicon compounds, Dioxides, Gels, Adsorbents, Iron, Corrosion.

Contents:
System $CaO-SiO_2-H_2O$. Sorption of calcium oxide by silica gel, by K. G. Krasil'nikov and A. V. Kiselev
Cathode behavior of iron in neutral solutions, by A. I. Krasil'shchikov.

JOURNAL OF PHYSICAL CHEMISTRY, 1945, VOL. 19, NO. 3: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 5p. 5 refs.
Order from OTS or SLA $1.10 62-10840

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1945, v. 19, no. 3, p. 142-159.

DESCRIPTORS: *Physical chemistry, *Abstracts, Catalysts, Catalysis, Classification, Hydrocarbons, Colloids, Electrical conductance, Electrochemistry.

Contents:
Principle of ensemble and aggravation in catalysis. II. Principle of aggravation and structural classification of catalysts, by N. I. Kobozev
Physicochemical investigation of emulsions of polymerizing hydrocarbons.
I. Conductometric method of sedimentation analysis of emulsions, by A. I. Yurzhenko.

JOURNAL OF PHYSICAL CHEMISTRY, 1945, VOL. 19, NO. 4/5: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 6p. 10 refs.
Order from OTS or SLA $1.10 62-10841

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1945, v. 19, no. 4/5, p. 201-220 and 228-249.

DESCRIPTORS: *Physical chemistry, *Abstracts, Hydrogen, Oxidation, Temperature, Aliphatic compounds, Crystals, Monomolecular films, Pressure, Styrenes, Hydrogenation, Platinum, Catalysts, Catalysis, Reaction kinetics.

Contents:
Kinetics of oxidation of hydrogen within the region of low temperature ignition, I-III, by A. B. Nalbandyan
Temperature dependence of the pressure of monolayers as a new method of investigation of hydrated crystals of higher aliphatic compounds, I, by A. A. Trapeznikov
Catalytic hydrogenation of organic compounds in the liquid phase. I. Kinetics of hydrogenation of styrene, by S. Yu. Elovich and G. M. Zhabrova.

JOURNAL OF PHYSICAL CHEMISTRY, 1945, VOL. 19, NO. 6: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 3p. 3 refs.
Order from OTS or SLA $1.10 62-10842

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1945, v. 19, no. 6, p. 253-265 and 314-323.

DESCRIPTORS: *Physical chemistry, *Abstracts, Gases, Adsorption, Hydrogen, Oxidation, Manganese compounds, Dioxides, Thermodynamics, Nitrogen, Mixtures, Catalase, Metallic compounds, Ammino compounds.

Contents:
Adsorption of gas from a stream or air by a layer of granulated material, I, by A. A. Zhukhovitskii and others
Catalytic oxidation of hydrogen on manganese dioxide, by L. Glukhovskaya and B. Bruns
Thermodynamic properties of compressed nitrogen-hydrogen mixtures, by I. R. Krichevskii and others
Catalase action of metal ammoniates, by L. A. Nikolaev and N. I. Kobozev.

Belyaev, A. I., Zhemchuzhina, E. A., and Firsanova, L. A.
PROCESSES AT THE ELECTRODES DURING ELECTROLYSIS OF MOLTEN SALTS. [1962] 26p.
Order from K-H $32.50 K-H 8946

Trans. of mono. [Fizicheskaya Khimiya Rasplavlennykh Solei] (Physical Chemistry of Soluble Salts) Moscow, 1957, chap. 10, p. 301-318.

DESCRIPTORS: *Electrodes, *Electrolysis, Salts.

Budnikov, P. P., Kolbasov, V. M., and Panteleev, A.S.
ON THE HYDRATION OF THE ALUMINA-CONTAINING MINERALS OF PORTLAND CEMENT IN THE PRESENCE OF MICRO-ADMIXTURES OF CARBONATES (O Gidratatsii Alyumosoderzhashchikh Mineralov Portland-Tsementa v Prisutsvii Karbonatnykh Mikronapolnitelei) tr. by G. N. Gibson. June 61 [6]p. DSIR Library Communication no. 1060; NLL M.4769.
Order from OTS or SLA $1.10 62-25365

Trans. of Tsement (USSR) 1961, v. 27, no. 1, p. 5-9.

DESCRIPTORS: *Cements, Minerals, *Carbonates, *Aluminum compounds, Oxides, Dehydration, Mixtures.

Busol, F. I.
KINETICS OF REDUCTION OF ZrI_4 VAPOR BY METALLIC ZIRCONIUM (Kinetika Vosstanovleniya Parov ZrI_4 Metallicheskim Tsirkonium) tr. by B. Ribush. [1962] [18] p. (foreign text included) 5 refs. [CSIRO] Trans. 5966.
Order from OTS or SLA $1.60 62-33409

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1959, v. 33, no. 4, p. 799-807.

DESCRIPTORS: Dynamics, *Reduction (Chemistry), *Iodides, *Zirconium compound, Vapors, Zirconium, Reation kinetics.

The kinetics of formation of the lower zirconium iodides in the reaction between ZrI_4 vapore and zirconium filings at temperatures of 300 to 530° C and pressures of 10 to 250 mm Hg, were studied. In this reaction ZrI_4 is reduced mostly to ZrI_3. There seemed to be no formation of zirconium diiodide. It was, established that the rate constant of the rate of growth of the triiodide layer is an exponental function of the temperature. For the activation energy of the process which determines the velocity of reaction under examination, the value $Q \approx 21\,000$ cal/mol. was derived. This process is the diffusion of zirconium atoms and ions through the ZrI_3 layer.

Carvalho, H. G. de.
CONTRIBUTION TO THE PHYSICOCHEMICAL STUDY OF WATER. [1963] 5p.
Order from ATS $7.75 ATS-99P64PT

Trans. of Assoc[iacão] Brasil[eira de] Quim[ica]. Anais, 1944, v. 3, p. 152-158.

DESCRIPTORS: *Water, *Physical chemistry.

Chirico, A[urelio] de.
PHYSIOCHEMICAL INVESTIGATIONS OF SOLUTIONS OF POLYCARBONATE IN CHLOROFORM. [1962] 5p.
Order from ATS $7.50 ATS-79P611

Trans. of Chim[ica] e [l']Ind[ustria] (Italy) 1960, v. 42, no. 3, p. 248-251.
Another trans. is available from SLA $1.10 as 62-16061 [1962] 8p.

DESCRIPTORS: *Carbonates, *Polymers, *Chloroform, Solutions, Physical properties, Chemical properties, Viscosity, Light, Scattering.

For abstract see Technical Translations 8: 658, 1962.

Cordier, Suzanne, Marignan, Roger, and Salvinien, Jean.
THE INFLUENCE OF A FOREIGN ELECTROLYTE ON THE DIFFUSION OF VARIOUS PHOSPHORIC ANIONS IN A GELATIN GEL, tr. by Bertha P. Klenova. 17 June 55, 3p. 2 refs. TVA 3350.
Order from OTS or SLA $1.10 62-32265

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1954, v. 238, p. 1710-1711 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: Gelatins, Gels, *Phosphoric acids, *Diffusion, *Electrolytes, Tracer studies, Electrochemistry

The method of radioactive isotopes was applied to the diffusion in a chemically homogeneous medium containing foreign electrolytes. (Author)

Cremer, E., Conrad, F., and Kraus, T.
THE ADHESION OF POWDERS AND ITS USE IN THE DETERMINATION OF PARTICLE SIZE, tr. by Bertha P. Klenova. 12 Feb 52 [5]p. 2 refs. TVA 3082.
Order from OTS or SLA $1.10 62-25807

Trans. of Angew[andte] Chem[ie] (West Germany) 1952, v. 64, p. 10-11.

DESCRIPTORS: *Powders, Dolomite, Magnesite, Iron, Molybdenum, *Adhesion, Surface tension, *Particle size.

The adhesion of a powder is determined by both friction and an adhesive force, H, which is inversely proportional to the grain diameter. The proportionality factor, h, for the system powder-support is a characteristic material constant of the dimension of a surface tension. If h is known, the mean grain diameter can be determined for powders of unknown grain size by measuring the adhesion. (Author)

Deryagina, O. G., Paleolog, E. N., and Tomashov, N. D.
ELECTROCHEMICAL AND CORROSION BEHAVIOR OF SEMICONDUCTORS IN ELECTROLYTE SOLUTIONS. III. GERMANIUM DISSOLUTION IN CONTACT WITH OTHER METALS. [1961] 11p. 8 refs. MDF D-147.
Order from OTS or SLA $1.60 62-19872

Trans. of #Zh[urnal] Fiz[icheskoi] Khim[ii] (USSR) 1960, v. 34, no. 9, p. 1952-1959.

DESCRIPTORS: *Semiconductors, Electrolytes, Solutions, Corrosion, Electrochemistry, *Germanium, Separation, Metals.

The behavior of n -type germainum in a Ge-In-Sn-Cu multi-electrode system was studied in solutions of 1 N NaOH with different hydrogen peroxide contents. On the basis of measurements of the rates of the electrode processes of the metals mentioned, the current strength and direction were determined in the branches of each electrode. The germanium is the anode in the given multi-electrode system and copper is the most efficient cathode while the tin and indium are strongly polarized and (depending on the conditions) are either cathodes or anodes. The total losses of n -type germanium in a contact with copper, indium and tin are determined by the rate of its anodic dissolution and self-dissolution. The relation between these rates depends on the electrolyte composition. As the hydrogen peroxide content in the solution increases, the fraction of germanium losses because of self-dissolution increases (Author)

Detkov, S. P.
THE DYNAMIC METHOD OF DETERMINING METAL VAPOR PRESSURES (Dinamicheskii Metod Opredeleniya Uprugosti Parov Metallov). 1963, 11p. 28 refs.
PL-480 Int.
Order from OTS $0.50 63-11097

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1957, v. 31, no. 1, p. 83-92.

DESCRIPTORS: *Vapor pressure, Determination, *Metals, *Boiling, Distillation, Dynamics.

A theoretical basis for the dynamic method of determining metal vapor pressures was developed. Because metals boil in vacuo without bubble formation, the transition from diffusion of vapor in the inert gas into the general mass stream is smooth and continuous even before boiling begins. To sharpen the appearance of the boiling point, an additional resistance, i.e., a diaphragm, must be interposed in the path of the vapor stream. With the aid of the diaphragm it is possible to approximate the position of the largest change in the distillation rate to the boiling point, thus achieving a sharper definition of the latter. The precision of the dynamic method is then limited by factors independent of the method, i.e., the precision in measuring the temperature of the metal, and the pressure of the inert gas. (Author)

Dunoyer, Jean M.
THE KINETICS OF CERTAIN GAS-SOLID REACTIONS IN RELATION TO MICROCRYSTALLINE STRUCTURE, tr. by Bertha P. Klenova. 21 Jan 52, 2p. 4 refs.
TVA 2931.
Order from OTS or SLA $1.10 62-32250

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1951, v. 232, p. 1929-1930 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: *Reaction kinetics, Solids, Gases, *Crystal structure, Microstructure, *Metallic crystals, Molybdenum compounds, Oxides, Reduction, Hydrogen, Chemical reactions.

Fichter, F. and Brunner, Ernst.
OXIDATION WITH FLUORINE. XII. ACTION OF FLUORINE ON NITRIC ACID, PERCHLORIC ACID, AND RELATED COMPOUNDS. 3 Jan 63, 13p. 22 refs.
Order from SLA $1.60 63-10557

Trans. of Helvetica Chimica Acta (Switzerland) 1929, v. 12, p. 305-313.

DESCRIPTORS: *Fluorine, *Nitric acid, *Perchloric acid, Oxidation, Chemical reactions, Electrochemistry

Fischer, Helmuth.
CRYSTALLIZATION OVERSTRAIN [AND] INFLUENCE OF AN INSERTION OF ACID GROUPS. [1962] [5] p. (foreign text included) 4 refs.
Order from SLA $1.10 62-20217

Trans. of mono. Elektrolytische Abscheidung und Elektrokristallisation von Metallen, Berlin/Göttingen/Heidelberg, 1954, p. 215 and 283.

DESCRIPTORS: Metals, *Crystallization, Inhibition, *Acids, Electrochemistry.

Frost, A. V.
VISCOSITY OF VAPORS OF PETROLEUM PRODUCTS. [1962] [7]p. 21 refs.
Order from OTS or SLA $1.10 62-18269

Trans. of Ak[ademiya] Nauk SSSR. Otd[elenie] Tekhnich[eskikh] Nauk. Izvestiya, 1942, no. 3/4, p. 21-[26].
Other translations are available from LC or SLA mi$1.80, ph$1.80 as 61-10143 [1960] 7p. and from OTS or SLA $1.10 as 61-16647 [1961] 5p.

DESCRIPTORS: *Viscosity, *Vapors, *Petroleum, Hydrocarbons, Equations, Nomographs.

For abstract see Technical Translations 5: 62, 1961.

Grigoryan, L. A. and Novoselova, A. V.
INVESTIGATION OF THE SULFIDES OF NIOBIUM. [1962] 5p. 4 refs.
Order from OTS or SLA $1.10 62-18641

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1962, v. 144, no. 4, p. 795-797.

DESCRIPTORS: *Niobium compounds, *Sulfides, Conductivity, Electrical properties.

Kafarov, V. V.
INTERPHASE TURBULENCE AND MASS TRANSFER PHENOMENA. [1962] 6p. 16 refs.
Order from OTS or SLA $1.10 62-16127

Trans. of #Zhur[nal] Priklad[noi] Khim[ii] (USSR) 1961, v. 34 [no. 5] p. 1061-1065.

DESCRIPTORS: Gas flow, *Turbulence, *Mass transfer, Diffusion, Surface tension, Fluid dynamics.

Korobkov, M. A.
CURRENT DISTRIBUTION IN THE ELECTRODES OF AN ALUMINUM ELECTROLYZER. [1961] 10p. 3 refs. MDF K-167.
Order from OTS $0.50 62-11220

Trans. of Tsvetnye Metally (USSR) 1957, v. 30, no. 1, p. 49-56.

DESCRIPTORS: *Electrodes, *Aluminum, Electrolytic cells, *Anodes (Electrolytic cell), Electric currents, Distribution, Electrochemistry.

The current is distributed nonuniformly in the anode of an aluminum cell; horizontal current components directed from the periphery to the center for a side current supply and from the center to the endplates for a top current supply exist. Means of diminishing the horizontal current components and the voltage drop in the anode are indicated. A comparison of the current distribution in an anode for two electrolyser constructions indicates the advantage of the top current supply and the composite rod rearrangement scheme. The current distribution in the cathode is nonuniform, consequently, horizontal current components arise in the metal. A relation is established between the technological region and the horizontal components directed across the cell. A change has been proposed in the construction of the busbars which would eliminate the longitudinal current component in the metal. (Author)

Maidanovskaya, L. G., Filatova, E. F., and Kalinova, M. V.
ADSORPTION OF ELECTROLYTES ON ZIRCONIUM OXIDE AFTER ACTIVATED ADSORPTION OF HYDROGEN ON IT. [1962] 6p. 7 refs.
Order from OTS or SLA $1.10 AEC-tr-5529

Trans. of Tomsk U. Uch[enye] Zap[iski] (USSR) 1959, v. 29, p. 37-41.
Another trans. is available from ATS $8.00 as ATS-97P61R [1962] 5p.

DESCRIPTORS: Adsorbants, *Zirconium compounds, Oxides, Electrolytes, *Sodium compounds, *Potassium compounds, *Barium compounds, Hydrogen, Adsorption.

The adsorption of hydrogen on zirconium oxide in the temperature range of 50-750° C with an initial hydrogen pressure of 0.808 mm Hg was investigated. It was found that there is activated adsorption of hydrogen on zirconium oxide in the temperature range of 175-550° C. Partial reduction of ZrO_2 to Zr_2O_3 was observed at 550° C. The temperature range of activated adsorption of hydrogen on zirconium oxide coincides with the temperature of a series of reactions in which zirconium oxide is used as a catalyst. A study was made of the adsorption of sodium, potassium, and barium cations from aqueous solutions of the chlorides on ZrO_2 and ZrO_2 that had first adsorbed hydrogen in the temperature range of activated adsorption. In the first case there was an increase in the acidity of the solution and in the second case, this increase in acidity was much less. A comparison of the data on the adsorption of electrolytes on zirconium oxide with similar investigations for titanium oxide shows that zirconium oxide has weaker acidic properties than titanium oxide. A possible mechanism for the process is put forward. (Author)

Matz, Werner.
CONSTRUCTION OF THE EQUILIBRIUM CURVE OF TWO-COMPONENT MIXTURES AS A MATHEMATICAL CURVE, tr. by Bertha P. Klenova. 4 June 51, 15p. 13 refs. TVA 3030.
Order from OTS or SLA $1.60 62-25796

Trans. of Chem[ie]-Ing[enieur]-Technik (West Germany) 1951, v. 23, p. 161-165.

DESCRIPTORS: Mixtures, *Vapor pressure, *Chemical equilibrium, Numerical analysis, Differential equations, Graphic analysis, Physical chemistry.

It is shown, on the basis of the Margules interpolation equations for the calculation of vapor pressures of binary mixtures at constant temperature, that generally the separation factor may be expressed mathematically as an exponential function. Its exponent is a function of coefficients whose magnitudes yield important conclusions regarding the general physical-chemical behavior of binary mixtures. The mathematical expression may be applied to the customary equilibrium curves at constant pressure. Several practical examples of known curves are shown mathematically. (Author)

Phdollov, P. I. and Su, Mien-tsung.
A STUDY OF THE LITHIUM-CARBON SYSTEM. [1962] 15p. (figs. omitted) 5 refs.
Order from OTS or SLA $1.60 62-18804

Trans. of [Hua Hsüeh Hsüeh Pao] (Chinese People's Republic) 1957, v. 23, p. 30-38.

DESCRIPTORS: *Lithium compounds, Carbon, *Carbides, Eutectics, Phase studies.

A study of the lithium-carbon system was made in terms of thermal analysis. The preparation of melt and the recording of cooling curves were done in argon atmosphere. The structural phase diagram of the system for the stage between lithium and lithium carbide (Li_2C_2) was determined. Lithium and lithium carbide form a eutectic whose composition lies nearly to pure lithium (carbon content was less than 1 atomic %); the eutectic point was about 165° C. By means of the boiling point method, the vapor pressures at high temperatures (790° - 950° C) were determined for pure lithium and melts with carbon content below 15 gram atomic %. From the isobars of the vapor pressures, the liquidus curve at higher temperature range was determined. Lithium carbide was completely hydrolized by water to give an equivalent volume of acetylene. There was no free carbon, nor residue remaining. The results of thermal analysis and Debye-Scherrer Method point out that lithium carbide has several forms, the transition temperatures being approximately 410°, 440°, and 560° C. (Author)

Rozhdestvenskii, V. P. and Il'ina-Veselova, M. V.
KINETICS OF THE CATALYTIC CONVERSION OF METHANE-HYDROGEN MIXTURES WITH STEAM ADDITION. [1962] 10p. 11 refs.
Order from OTS or SLA $1.10 62-18892

Trans. of #Zhur[nal] Priklad[noi] Khim[ii] (USSR) 1961, v. 34 [no. 8] p. 1834-1841.

DESCRIPTORS: *Methanes, *Hydrogen, Mixtures, *Steam, *Catalysis, Reaction kinetics.

Conversion of methane-hydrogen mixture (1:1) was studied in laboratory flow apparatus with steam at temperatures of 550°, 600° and 700° C on the catalyst "GIAP-3" and a steam mixture ratio of 2:1 within the interval of space velocities from 200 to 5,000 vol/vol cat/hour. The kinetic equations of this conversion are given and the reaction rate was compared with that of undiluted methane; thus a conclusion on the inhibiting effect of hydrogen was derived. The activation energy of the conversion process was determined. Data, charactering quantitatively the direction and extent of the conversions under the mentioned conditions, were produced. Also the composition of the converted gas was established. (Author)

Starik, I. E.
ELECTROCHIMIE DES MATERIAUX RADIOACTIFS, tr. by Giuliani. 22 Sep 61 [133]p. 76 refs. CEA Trans. no. R 1398 (text in French).
Order from OTS or SLA $10.50 63-15744

Trans. in French of mono. Osnovy Radiokhimii (Notions Fondamentales de Radiochimie) (Fundamentals of Radiochemistry) Moscow, 1959, chap. 4.

DESCRIPTORS: Electrochemistry, *Labeled substances, Radioactive isotopes, Hydrolysis, Separation, *Electrolysis, Valence, *Ionization potential.

Les méthodes etudiées, a la base desquelles sont les réactions qui ne comprennent pas de decharge immédiate de l'ion nous intéressant jusqu'a la formation du metal (et pour certaines d'entre elles le changement de la valence de l'ion etudie ne se faisant pas du tout), ont une grande importance, étant donne qu'elles augmentent considerablement le nombre des isotopes radioactifs pouvant etre séparés par électrolyse. (Author)

Tikhomirov, I. A. and Melenevskii, V. N.
THE ISOTOPIC EFFECT IN THE ELECTROSYNTHESIS OF OZONE BY RAYLEIGH'S METHOD. 8 Jan 63, 7p. 3 refs. FTD-TT-62-1535.
Order from OTS or SLA $1.10 63-15527

Unedited rough draft trans. of #Zhurnal Fizicheskoi Khimii (USSR) 1962, v. 36, no. 4, p. 895-897.

DESCRIPTORS: *Ozone, Syntheses, Electric discharges, *Isotope separation.

Tolstoi, N. A. and Feofilov, P. P.
ON SOME ELECTROOPTIC PHENOMENA IN COLLOIDS. [1962] 9p.
Order from K-H $11.25 K-H 8921 c

Trans. from [Akademiya Nauk SSSR. Doklady] 1949, v. 66, no. 4.

DESCRIPTORS: *Photoelectric effect, *Colloids, Photochemistry.

Weil, Annette.
RAMAN SPECTRA AND ORIENTATION OF WATER MOLECULES IN CRYSTALS OF OXALIC ACID DIHYDRATE, tr. by Bertha P. Klenova. 4 Aug 54, 3p. 7 refs. TVA 3317.
Order from OTS or SLA $1.10 62-32260

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1954, v. 238, p. 576-578 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: *Oxalic acids, *Hydrates, *Single crystals, Water, Molecules, Deformation, *Raman spectroscopy.

EARTH SCIENCES

DEFENSE OF DISSERTATIONS AT THE ACADEMIC COUNCIL OF THE INSTITUTE FOR PHYSICS OF THE EARTH OF THE ACADEMY OF SCIENCES OF THE USSR IN 1956. [1962] [9]p. ACIC LD-48.
Order from OTS or SLA $1.10 62-25422

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geofizicheskaya, 1956, no. 10, p. 1236-1238.

DESCRIPTORS: *Theses, Earth, *Physics, Gravimeters, Quartz, Earthquakes, Seismic waves, Stresses, Vibration, Buildings, *Geophysics, Rock (Geology), Elasticity.

Boczek, Maria and Kielan, Andrzej.
A METHOD OF FORECASTING THE INFLOW OF FLOOD WAVE TO WATER RESERVOIRS (Metoda Opracowania Prognozy Doplywu Fali Powodziowej do Zbiornikow Wodnych) tr. by J. Bachrach. 1962 [8]p. PL-480 Int.
Order from OTS $0.50 61-31294

Trans. of Gazeta Obserwatora P. I. H. M. (Poland) 1958 [v. 11] no. 10, p. 12-15.

DESCRIPTORS: *Hydrology, Lakes, *Floods, *Soils, *Atmospheric precipitation, Mathematical analysis.

This method is based on the determination of the amount of water derived from precipitation and on the calculation of water losses. The latter value is the amount of rain water which does not flow into the river channel in the period under investigation. The losses depend on a number of factors such as the depth of precipitation, its duration and intensity, soil retention, air temperature, plant cover, topography, geological conditions and season of the year. It would be extremely difficult to bring so many factors into calculation, therefore, only those exerting a major influence on the phenomenon have been singled out, that is, depth of precipitation, time of precipitation, and soil retention. (Author)

Chepikov, K. R., Ermolova, E. P., and Orlova, N. A.
EPIGENETIC MINERALS IN ARENACEOUS ROCKS OF PRODUCING HORIZONS AND THEIR EFFECT ON RESERVOIR PROPERTIES (REGION OF THE SECOND BAKU). [1962] [17]p. 13 refs.
Order from OTS or SLA $1.60 62-20301

Trans. of Akademiya Nauk SSSR. Institut Geologii i Razrabotki Goryuchikh Iskopaemykh. Trudy, 1960, v. 1, p. 240-246.

DESCRIPTORS: Rock-forming minerals, *Minerals, *Rock (Geology), Permeability, Petroleum, Sources, Quartz, Sandstone, Silt, Carbonate minerals, Stratigraphy, Geology.

This article presents the results of the investigation of epigenetic minerals in monomineral quartz sandstones and silt-stones not containing noticeable quantities of argillaceous cement. The specimens for the investigations are taken from the producing horizons of the lower carboniferous and the upper Devonian of the systems of the Kuibyshev Zavolzh'ie the Pashii formation of the Romashkin deposit of Taxtary as well as the deposits of Bavlov, Tuimazov, and Samarskaia Luka.

Globus, A. M.
AN EXPERIMENTAL STUDY OF THE PHASE OF SOIL AND GROUND MOISTURE MIGRATING UNDER THE INFLUENCE OF TEMPERATURE GRADIENT. 12 Dec 62 [5]p. (figs. formulae omitted) 7 refs. [DSIR] NLL M.3110.
Order from OTS or SLA $1.10 62-24894

Unedited trans. of Akademiya Nauk [SSSR]. Doklady, 1960, v. 132 [no. 4] p. 918-920.

DESCRIPTORS: *Soils, Moisture, Distribution, Temperature, Water vapor, Phase studies.

Kunetz, Geza.
APPLICATION OF STATISTICAL PROPERTIES OF TELLURIC CURRENTS IN PRACTICAL GEOPHYSICS. [1962] 20p. 1 ref.
Order from SLA $1.60 62-16423

Trans. of Freiberger Forschungshefte. Reihe C. Geophysik [Wissenschaften] (West Germany) 1957, v. 32, p. 5-19.

DESCRIPTORS: *Geophysics, *Geophysical prospecting, *Electric currents, Statistical data, Probability.

Peschanskii, I. S.
SUN AND ICE: NEW METHODS OF ACCELERATING THAWING (Solntse i Led: Novye Metody Uskoreniya Tayaniya) tr. by G. L. Cairns. Feb 62 [6]p. Library Communication no 1108.
Order from OTS or SLA $1.10 62-33085

Trans. of Priroda (USSR) 1960 [v. 49] no. 7, p. 49-54.

DESCRIPTORS: *Ice, Melting, *Thermal radiation, Arctic regions, Sun.

Rozanski, Mieczyslaw.
RELATION BETWEEN ATTERBERG LIMITS AND MOISTURE OF CAPILLARY SATURATION (Zaleznosc Cech Atterberga od Wilgotnosci Nasycenia Kapilarnego) tr. by J. Lowinski. 1962 [10]p. 5 refs. PL-480 Int
Order from OTS $0.50 61-31306

Trans. of [Melioracja] (Poland) 1958 [v. 3] no. 13, p. 175-182.

DESCRIPTORS: *Soil mechanics, *Clay, Adhesion, Plasticity, Moisture, Test methods, Capillaries.

The "moisture of capillary saturation" is a characteristic property of the soil. There exists a distinct correlation between the "moisture of capillary saturation" and the Attenberg limits. Determination of the Atterberg limits by the "moisture of capillary saturation" method is much shorter than the rolling method and determination in Casagrande's apparatus. (Author)

Shulcikin, V. V.
MAGNETIC AND ELECTRIC PHENOMENA IN THE SEA (Magnitnye i Elektricheskie Yavleniya v More) tr. by M. Slessers. 1962 [45]p. 24 refs. HO Trans-135.
Order from OTS or SLA $4.60 62-33083

Trans. of mono. Kratkii Kurs Fiziki Morya (A Concise Course in the Physics of the Sea) Leningrad, 1959, chap. 8, p. 442-475.

DESCRIPTORS: *Marine geophysics, *Sea water, Terrestrial magnetism, Electrical conductance, Electric current, Magnetism.

Magnetic and electric phenomena in the sea are discussed in relationship to the earth's magnetic field, pointing out the major characteristics of the phenomena, especially their manifestation in the ocean water. In connection with this, the author analyzes the electrical conductivity of sea water, the telluric and induced currents in the sea and some of the results of electrical measurements conducted in the sea. (Author)

Sysoev, N. N.
THE SOVIET EXPEDITIONARY SHIP "VITYAZ", tr. by M. Slessers. International Geophysical Year 1957-58 mono. 1962 [40]p. HO Trans-156.
Order from OTS or SLA $3.60 62-33091

Trans. of mono. Sovetskoe Ekspeditsionnoe Sudno "Vityaz", Moscow, 1959, 30p.

DESCRIPTORS: *Marine geophysics, *Oceanographic vessels, Oceanographic equipment, Geophysics.

The structure and equipment of the Soviet oceanographic vessel "Vityaz'" (displacement 5710 t) is discussed, describing the operation of the vessel, its laboratories designed for preliminary processing of observational material concerning the geological, physical, and chemical oceanography, including marine climatology. Further, the oceanographic winches, cables and bottom corers used on the "Vityaz'" are described, pointing out the maximum length of core samples (34.5 m, 28 m) that can be obtained by various models of bottom corers and their operation at various depths, including the abyssal depths to 10 km. In conclusion the paper outlines the equipment used for underwater photography and sums up the advantages of large oceanographic vessels for complex expeditions. (Author)

Wedzinski, Wladyslaw and Najder, Janusz.
A CONTRIBUTION TO LABORATORY INVESTIGATIONS ON THE COEFFICIENT OF LATERAL PRESSURE OF SILT (Przyczynek do Badan Laboratoryjnych nad Wspolczynnikiem Parcia Bocznego Gruntow Pylastych) tr. by Cz. Pawelec. 1962 [15]p. 3 refs. PL-480 Int.
Order from OTS $0.50 61-31313

Trans. of Rozprawy Hydrotechniczne (Poland) 1958, no. 4, p. 169-180.

DESCRIPTORS: *Soil mechanics, *Silt, Loading (Mechanics), Pressure, Determination, Test equipment.

Climatology and Meteorology

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 107 (EARTH SCIENCES SERIES). 18 Mar 63 [7]p. JPRS: 18165.
Order from OTS $0.50 63-21337

Abstract trans. of Meteorologicke Zpravy (Czechoslovakia) 1962, v. 15, no. 6, p. 153-180.

DESCRIPTORS: *Abstracts, Literature, Czechoslovakia, Geophysics, *Meteorology, Agriculture, Climatic factors.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 114 (EARTH SCIENCES SERIES). 25 Mar 63 [8]p. JPRS: 18328.
Order from OTS $0.50 63-21410

Abstract trans. of Meteorologicke Zpravy (Czechoslovakia) 1962, v. 15, no. 5, p. 117-150.

DESCRIPTORS: *Abstracts, Literature, *Czechoslovakia, *Meteorology, Agriculture, Hydrology, Geophysics.

METEOROLOGY AND HYDROLOGY, 1962, NO. 12: [SELECTED] TRANSLATIONS. 14 Mar 63 [117]p. 339 refs. JPRS: 18141.
Order from OTS $2.50 63-21328

Trans. of Meteorologiya i Gidrologiya (USSR) 1962, no. 12, p. 3-15, 21-25, 40-45, 51-64.

DESCRIPTORS: *Meteorology, *Hydrology, *Turbulent flow, *Weather forecasting, *Atmospheric precipitation Boundary layer, Thermodynamics, *Radar equipment, *Rainfall, Aircraft, Bibliography, Oceanology, Conferences, Symposia, *Antarctic regions, Scientific organizations

Contents:
Determination of the movement, heat, and moisture of turbulent flows according to given gradient data, by A. B. Kazanskii and A. S. Monin
On a method for predicting humidity, cloud cover, and precipitation fields, by L. A. Kuznetsov
Thermodynamic characteristics of the boundary layer during fog and low cloud cover, by A. N. Koviza
A method for calibrating a radar set by rainfall intensity, by A. M. Dimaksyan and N. V. Zotimov
Turbulence measurements on high-speed aircraft, by E. I. Sofiev
Literature on meteorology, hydrology, and oceanology published in 1961: articles in journals and symposia
With the main administration of the hydrometeorological service
With the state committee on coordination of scientific research
With the institutions of the hydrometeorological service
With the Central Methodical Commission on Meteorological Forecasting
Conferences, meetings, and seminars
Antarctic research
With the World Meteorological Organization
In foreign countries
Contents

Bagrov, N. A.
THE ANALYTICAL REPRESENTATION OF THE SEQUENCE OF METEOROLOGICAL FIELDS BY MEANS OF NATURAL ORTHOGONAL COMPONENTS, tr. by T. C. Marwick. [1962] [24]p. (figs. tables omitted) 6 refs. Trans. no. 75; [DSIR] NLL M. 311.
Order from OTS or SLA $2.60 62-24881

Unedited trans. of [Tsentral'nyi Institut Prognozov]. Trudy (USSR) 1959, v. 74, p. 3-24.

DESCRIPTORS: *Weather forecasting, Meteorological parameters, *Air mass analysis, Statistical analysis, Matrix algebra, Polynomials.

Blinova, E. N.
HYDRODYNAMICAL FORECASTING OF MEAN MONTHLY TEMPERATURE ANOMALIES FOR THE NORTHERN HEMISPHERE, USING INTERNATIONAL GEOPHYSICAL YEAR DATA. [1962] 7p. (figs. formulae omitted) 4 refs. Trans. no. 66; [DSIR] NLL M. 2713.
Order from OTS or SLA $1.10 62-24892

Unedited trans. of Ak[ademiya] Nauk [SSSR]. Doklady, 1960, v. 131, no. 2, p. 293-296.

DESCRIPTORS: *Weather forecasting, *Fluid dynamics, Air mass analysis, *Atmospheric temperature.

Budyko, M. I., ed.
A. I. VOEIKOV AND PROBLEMS IN CLIMATOLOGY: SELECTED ARTICLES. 1963, 92p. 220 refs. PL-480 Comm.
Order from OTS $1.00 61-11463

Trans. of mono. A. I. Voeikov i Sovremennye Problemy Klimatologii, Leningrad, 1956 [p. 45-83, 175-192, 226-261].

DESCRIPTORS: *Climatology, Atmosphere, Moisture, Evaporation, Precipitation, Atmospheric motion, Meteorological parameters, Thermal radiation, Agriculture, Climatic factors.

Contents:
The water balance in the atmosphere, by O. A. Drozdov
Modern views on the general circulation of the atmosphere, by Kh. P. Pogosyan
Variations in space and time of meteorological elements, by M. I. Yudin
Heat balance of the atmosphere of the northern hemisphere, by T. G. Berlyand
Climatic descriptions from the point of view of agricultural production requirements, by I. A. Gol'tsberg

Calvert, Edouard-Jean-Pierre.
TECHNICAL DATA OF THE CEILOMETER: MICROCALORIMETER COMPENSATED BY THE PELTIER AND JOULE EFFECTS (Technische Daten des Wolkenhoehenmessers). 24 Sep 57 [6]p.
F-TS-9484/III.
Order from OTS or SLA $1.10 63-15792

Trans. of French patent 953,800, appl. 21 July 47, granted 30 May 49, pub. 13 Dec 49, by Dr Ing Frank Fruengel GmbH, Hamburg/Rissen.

DESCRIPTORS: *Cloud height indicators, *Calorimeters, *Peltier effect, Meteorological instruments, Radio receivers, Radio transmitters, Recording systems, Optical equipment.

Makarov, N.
IS THERE A STORM ALONG THE AIR ROUTE? 8 Jan 63 [13]p. FTD-TT-62-1679.
Order from OTS or SLA $1.60 63-15565

Unedited rough draft trans. of Grazhdanskaya Aviatsiya (USSR) 1962 [v. 19] no. 9, p. 22-24.

DESCRIPTORS: *Air traffic control systems, *Meteorological radar, *Weather forecasting, *Storms, Detection.

Bykov, V. V.
ON THE ALLOWANCE FOR THE DEPARTURE OF THE WIND FROM THE GEOSTROPHIC VALUE IN FORECASTING THE WEATHER ELEMENTS, tr. by T. C. Marwick. [1962] [11]p. (figs. equations omitted) 8 refs. Trans. no. 73; [DSIR] NLL M. 3116.
Order from OTS or SLA $1.60 62-24883

Unedited trans. of [Tsentral'nyi Institut Prognozov]. Trudy (USSR) 1958, v. 78, p. 83-91.
Another trans. is available from OTS $0.50 as 60-41098, JPRS-5205, 3 Aug 60, 15p.

DESCRIPTORS: *Weather forecasting, Meteorological parameters, *Wind, Barometric pressure, Air mass analysis, Mathematical analysis.

For abstract see Technical Translations 5: 240, 1961.

Mashkovich, S. A.
ON THE FORMATION OF ZONAL CIRCULATION, tr. by T. C. Marwick. [1962] [29]p. (figs. tables omitted) 8 refs. Trans. no. 69; [DSIR] NLL M. 3117.
Order from OTS or SLA $2.60 62-24884

Unedited trans. of [Tsentral'nyi Institut Prognozov]. Trudy (USSR) 1958, v. 78, p. 5-36.

DESCRIPTORS: *Atmospheric motion, *Jet streams (Meteorology), Wind, Solar radiation, Mathematical analysis.

Rafailova, Kh. Kh.
APPLICATION OF THE LAWS OF CHANCE OF THE ANOMALY OF THE 500/1000MB. THICKNESS TO FORECASTING THE SURFACE PRESSURE FIELD OF THE "TENDENCY" OF THE FOLLOWING NATURAL SYNOPTIC PERIOD, tr. by T. C. Marwick. [1962] [12]p. (figs. tables omitted) 4 refs. Trans. no. 76; [DSIR] NLL M. 3113.
Order from OTS or SLA $1.60 62-24882

Unedited trans. of [Tsentral'nyi Institut Prognozov]. Trudy (USSR) 1959, v. 74, p. 47-55.

DESCRIPTORS: *Weather forecasting, *Air mass analysis, *Barometric pressure.

Geodesy

BULLETIN OF THE CAUCASIAN BRANCH OF THE IMPERIAL RUSSIAN GEOGRAPHICAL SOCIETY, 1886/1888, VOL. 9: [SELECTED ARTICLES]. [1962] [38]p. 1 ref. ACIC-RR-44(H-K).
Order from OTS or SLA $3.60 63-13560

Trans. of [Gosudarstvennoe] Russkoe Geograficheskoe Obshchestvo. Kavkazskii Otdel. Izvestiya, 1886/1888, v. 9, p. 68-89, 201-202, 205, 406-412.

DESCRIPTORS: *Deflection, Azimuth, *Gravimeters, Terrain, Terrestrial magnetism, *Geodesics, Astronomical geodesics, Trigonometry, Theodolites, Surveying, Mountains, Theodolites, Surveying, Mountains, Railroads, Geography, Black Sea.

Contents:
Transcaspian area, by P. Kul'berg
Elevation of points along the Transcaspian railroad, determined by leveling, by N. F. Klement'ev
Geographical location and elevation above Black Sea level of points of Sochi section triangulation (Chernomorskii Okrug) performed in 1886, by A. I. Pervas
Unusual deflections of the plumb line at Batum, by P. Kul'berg.

BULLETIN OF THE IMPERIAL RUSSIAN GEOGRAPHIC SOCIETY, 1876, VOL. 12: [SELECTED ARTICLES]. [1962] [25]p. ACIC RR-46.
Order from OTS or SLA $2.60 62-25450

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1876, v. 12, no. 1, p. 31-41, 134-135; no. 3, p. 315-321.

DESCRIPTORS: *Astronomical geodesics, *Terrestrial magnetism, *Meteorological parameters, Leveling rods, Surveying, *Siberia, *Mongolia, Barometers, Geodesics.

Contents:
Results of astronomic, magnetic and meteorological observation made at the time of the Olenek expedition, rept. 2, by F. F. Miller
List of elevations derived by Siberian leveling in the section between Kansk and Irkutsk, by F. F. Miller
Barometric leveling in Mongolia, by M. V.
Siberian leveling.

DETERMINATION OF ACCELERATION OF GRAVITY WITH GAL GRAVIMETERS FROM A SUBMARINE. 12 Feb 63 [33]p. 3 refs. JPRS: 17587.
Order from OTS $1.00 63-21108

Trans. of [Akademiya Nauk SSSR]. Institut Fiziki Zemli. Trudy, 1962, no. 24(191) p. 86-115.

DESCRIPTORS: Geodesics, *Gravity, Acceleration, Measurement, *Gravimeters, Tests, Errors, Statistical analysis, *Submarines.

Gravimeters with heavy damping for use at sea are examined in this paper as regards the sequence of processing for the observations; an attempt is made to elucidate and estimate the various errors. The estimates are based on laboratory tests made in submarines. It was found that GAL gravimeters are of adequate accuracy for use in submarines. A set of five to eight GAL gravimeters enables one to cover a range of variation from 1500 to 2000 mgal without return to the initial point for three or four months. The contribution to the total error from the instrumental error under these conditions will not exceed ±2 to ±3 mgal for the weakest point.

FIGURE AND SIZE OF THE EARTH ON THE BASIS OF MODERN DATA: CHAPS. 4 AND 6. [1962] [113]p. 26 refs. ACIC LD-46.
Order from OTS or SLA $9.60 63-13563

Trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros"emki i Kartografii. Trudy (USSR) 1950, v. 73, p. 77-112 and 153-173.

DESCRIPTORS: Geometric forms, Determination, *Earth, Gravity, Measurement, Ellipsoids, Spheres, Equations, *Geodesics, Astronomical geodesics.

Contents:
Methods for determining earth ellipsoid dimensions from arc measurements
Determination of earth spheroid constants from results of gravity measurements.

MAIN HYDROGRAPHIC ADMINISTRATION, LENINGRAD. RECORDS ON HYDROGRAPHY, 1898-1927: [SELECTED ARTICLES]. [1962] [455]p. ACIC G-9.
Order from OTS or SLA $23.50 63-13555

Trans. of Gidrograficheskoe Upravlenie. Zapiski po Gidrografii (USSR) 1898, v. 19, p. 1-45; 1899, v. 20, p. 37-52; 1904, v. 26, p. 1-36, 214-258; 1905, v. 27, p. 23-46; 1907, v. 28, p. 311-359; 1913, v. 37, p. 21-26; 1915, v. 39, p. 760-773; 1923, v. 47, p. 1-28; 1925, v. 50, p. 95-114; 1927, v. 52, p. 59-95, 527-532.

DESCRIPTORS: Marine geophysics, *Astronomical geodesics, *Hydrographic surveying, Terrain, Gravity, Tides, Chronographs, Surveying, White sea, Telegraph systems, Leveling rods, Triangulation, Stereoscopic projectors, Arctic regions, Caspian Sea, Black Sea, *Geodesics.

Contents:
Determination of astronomical positions on the shores of Lake Baikal in 1897, by [A.] Bukhteev
The Komandorskie Ostrova (Komandorskie Islands) and the eastern shore of the Kamchatka Peninsula, by Shtal'
Report on astronomical and topographic operations by Staff Captain Islyamov in the Karabugaz Expedition, 1897, by I. Islyamov
A brief summary of the work of the Arctic-Ocean Hydrographic Expedition of 1902, by A. Varnek
Determination by telegraph of the difference in longitude of Khogland Island and Pulkovo, by B. Chaikovskii
Hydrographic operations along the Murman coast in 1903, by [A.] Bukhteev
Determination by telegraph of the longitude of the city of Aleksandrovsk in the Murman region relative to Pulkovo, by A. Bukhteev and G. Maksimov
Astronomical operations of the Arctic Ocean Expedition during the summer of 1904, by V. Akhmatov
Geodetic work of the Arctic Ocean Expedition in the summer of 1904, by V. Akhmatov
Relative determination of the force of gravity in the De-Kastri Gulf in the year 1911, by M. Zhdanko
The base net of the Nikolaistad base line, by G. Maksimov
Preliminary report on the triangulation in the northwestern region of the Caspian Sea from the city of Astrakhan to the Lagan' village, by G. Migalkin
Precise leveling in Odessa and its environs, by V. Kavraiskii
Grid coordinates in stereographic projection, by N. Kell'
Triangulation of the northwestern shore of the Black Sea from the town of Nikolaev to the Dnestr, by N. I. Makushenko
The tides in the White Sea, by V. Stakhevich.

MAIN HYDROGRAPHIC ADMINISTRATION, LENINGRAD. RECORDS ON HYDROGRAPHY, 1928-37; [SELECTED ARTICLES]. [1962] [257]p. 15 refs. ACIC G-10.
Order from OTS or SLA $16.50 63-13556

Trans. of Gidrograficheskoe Upravlenie. Zapiski po Gidrografii (USSR) 1928, v. 54, p. 1-28, 59-85, 227-229; 1929, v. 55, p. 59-70; v. 57, p. 55-66; 1932, no. 1, p. 37-58; 1935, no. 2, p. 5-18, 35-59; 1936, no. 3, p. 55-73; 1937, no. 2, p. 323-326.

DESCRIPTORS: Marine geophysics, *Hydrographic surveying, Sea water, *Astronomical geodesics, Terrestrial magnetism, Gravity, Measurement, Gravimeters, Triangulation, Earthquakes, Navigation, Franz Josef Land, Surveying, Azimuth, Height finding, Tables, Inland waterways, Black Sea, *Geodesics.

Contents:
Pendulum gravity measurements at sea, by I. Zhongolovich
Magnetic observations on the Irtysh, Ob', the Obskaya Guba (Ob' Gulf) and the Karskoe More (Kara Sea) in 1923, by N. N. Pavlov
Triangulation observation during Crimean earthquake, by N. Makushenko
Leveling on the Kurgal'skii Peninsula in 1927, by A. Belobrov
Shokal'skii Island, by B. A. Sergeevskii (incomplete)
On the elevations of bench marks in Baku, by V. Borisov
Expedition to Kara-Bogaz Gulf (notes on sailing directions and astronomical determinations) by V. Borisov
Measured course of 1931 near Sevastopol', by K. Bel'chenko (computation tables omitted)
Results of an investigation of the Pulfrich method of transit-stadia traverse (tangent screw and horizontal rod) by N. Matusevich
Survey operations on Franz Josef Land in 1933-34, by N. Zagrubskii
New and more accurate tables for the computation of altitudes and azimuths, by N. Preipich
Relative gravity determinations along the Irtysh and Ob' rivers and the shores of the Kara Sea according to the observations of 1923 by Prof. A. N. Nefed'ev, by G. Agafonov
Adjustment by figures of the triangulation along the northwest coast of the Black Sea, by K. Bel'chenko

PRACTICAL EXAMPLE OF WORKS OF PERFORMANCE OF THE KARA KUM EXPEDITION AND ITS RESULTS (CONCLUSIONS). [1962] [18]p. ACIC LD-47.
Order from OTS or SLA $1.60 63-13564

Trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros"emki i Kartografii. Trudy (USSR) 1949, v. 66, p. 75-83.

DESCRIPTORS: *Gravity, Measurement, Errors, Exploration, Surveying, Gravimeters, *Geodesics, *Deserts.

TRANSACTIONS OF THE CENTRAL SCIENTIFIC RESEARCH INSTITUTE OF GEODESY, AERIAL SURVEYING, AND CARTOGRAPHY, 1958, VOL. 118 [SELECTED PARTS]. [1962] [85]p. 36 refs. ACIC LD-(27-28).
Order from OTS or SLA $8.10 63-13566

Trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros"emki i Kartografii. Trudy (USSR) 1958, v. 118, p. 2-28 and 141-147.

DESCRIPTORS: Scientific research, *Mapping, Scale, Aerial reconnaissance, *Surveying, Terrain, Roads, Construction, Standards.

Contents:
Requirements for the precision of topographic maps and surveys at the scale of 1:2000, by M. N. Sokolov
Requirements for topographic map precision and topographic surveys to the scale 1:5000 and 1:10,000, by M. N. Sokolov
Road construction, by M. N. Sokolov.

Babkov and Golubev, A.
TOPOGRAPHIC SURVEY OF LAKE BALKHASH [AND] TOPOGRAPHIC SURVEY OF ALA-KUL'. [1962] [35]p. 20 refs. ACIC RR-42.
Order from OTS or SLA $3.60 62-25442

Trans. of [Gosudarstvennoe] Russkoe Grograficheskoe Obshchestvo. Zapiski ... po Obshchei Geografii, 1867, v. 1, p. 329-347 and 349-361.

DESCRIPTORS: Terrain, *Surveying, *Lakes, Siberia, Climatology, Geography, Soils, Population, Hydrographic surveying.

Baranov, V.
GRAVITY OBSERVATIONS MADE BY THE KAZAN' ASTRONOMIC OBSERVATORY WITH THE ASSISTANCE OF THE IMPERIAL RUSSIAN GEOGRAPHICAL SOCIETY IN 1911-13: A SHORT REPORT [1962] [12]p. 6 refs. ACIC RR-46.
Order from OTS or SLA $1.60 62-25452

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo., Izvestiya (USSR) 1915, v. 51, no. 3, p. 139-148.

DESCRIPTORS: *Gravity, Measurement, Oscillation, Chronographs, Astronomical geodesics.

Baranov, V.
GRAVITY DETERMINATIONS ALONG THE VOLGA IN 1907. [1962] [7]p. 1 ref. ACIC RR-46.
Order from OTS or SLA $1.10 62-25437

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1908, v. 44, no. 6, p. 317-321.

DESCRIPTORS: *Gravity, Measurement, Chronographs, *Geodesics.

Barinov, V. A. and Gan'shin, V. N.
THE HISTORY OF THE ORIGIN AND DEVELOPMENT OF THE JADERIN METHOD OF BASE MEASUREMENT IN THE USSR [AND] ADJUSTMENT OF EQUALLY ACCURATE DIFFERENCES IN ELEVATION OBTAINED BY GEODETIC LEVELING. [1962] [44]p. 2 refs. ACIC G-19.
Order from OTS or SLA $4.60 62-33417

Trans. of Akademiya Nauk Kazakhskoi SSR, Alma-Ata. Izvestiya. Seriya Geograficheskaya, 1948, v. 2[58] p. 78-101.

DESCRIPTORS: History, Measurement, *Geodesics, Height finding, Leveling rods, Triangulation, Corrections, Statistical analysis.

Belyaev, Ya. I.
ASTRONOMICAL WORK PERFORMED IN 1913 BY THE OLONETS EXPEDITION OF THE IMPERIAL RUSSIAN GEOGRAPHIC SOCIETY: PRELIMINARY REPT. [1962] [7]p. ACIC RR-46.
Order from OTS or SLA $1.10 62-25447

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1914, v. 50, no. 7, p. 429-433.

DESCRIPTORS: *Astronomical geodesics, Reports, Geodesics.

Bodemüller, Hellmut.
CONTRIBUTION TO THE GRAVITY CORRECTION OF DIRECT LEVELING (Beitrag zur Schwerekorrektion Geometrischer Nivellements). [1962] [205]p. 39 refs. ACIC G-24.
Order from OTS or SLA $14.00 62-25588

Trans. of [Akademie der Wissenschaften, Munich. Deutsche Geodätische Kommission. Veröffentlichungen. Reihe A] (West Germany) 1957, no. 26, 165p.

DESCRIPTORS: *Gravity, Corrections, Measurement, Spheres, *Gravity anomalies, Terrain, Maps, Ellipsoids, Statistical analysis, Theory, Circuits, Geodesics, Leveling rods, Surveying.

Bonch-Bruevich, M. D. and Smirnov, K. M. eds.
INSTRUMENTS: THE GEODETIC GONIOMETRIC INSTRUMENTS OF HIGH PRECISION. [1962] [35]p. ACIC RR-20(a-c).
Order from OTS or SLA $3.60 63-13562

Trans. of Geodeziya: Spravochnoe Rukovodstvo (USSR) 1939, v. 7, chap. 14, pts. 2-4, p. 186-198.

DESCRIPTORS: Instrumentation, Geodesics, *Goniometers, Design, Triangulation, Theodolite.

Bursa, Milan.
DETERMINING DIMENSIONS OF A REFERENCE ELLIPSOID AND GEODETIC DATUM ON THE BASIS OF ARTIFICIAL SATELLITE OBSERVATION. 7 Mar 63 [10]p. 2 refs. JPRS: 18002.
Order from OTS $0.50 63-21270

Trans. of Studia Geophysica et Geodaetica (Czecholovakia) 1962, v. 6, no. 4, p. 407-409.

DESCRIPTORS: *Astronomical geodesics, *Satellites (Artificial), *Mapping, Position finding, Ellipsoids.

Dabrowski, Piotr.
SIDE COMPUTATION IN ELECTRONIC GEODETIC TRILATERATION BY THE CIRCULAR SURVEYING SYSTEM. 5 Mar 63 [7]p. 3 refs. JPRS: 17943.
Order from OTS $0.50 63-21246

Trans. of Przeglad Geodezyjny (Poland) 1962 [v. 34] no. 11, p. 454-455.

DESCRIPTORS: Geodesics, *Geophysical prospecting, Electronic equipment, *Position finding, *Radar, SHORAN.

Drobyshev, F. V. and Rynin, N. A.
THE ELEVATIONS OF PHOTOGRAMMETRIC TRAVERSES [AND] PLAN FOR SCIENTIFIC-RESEARCH AERIAL-SURVEY OPERATIONS IN 1929/30-1932/33, CARRIED OUT BY THE LENINGRAD DIVISION OF THE STATE SCIENTIFIC-RESEARCH INSTITUTE OF GEODESY AND CARTOGRAPHY. [1962] [42]p. ACIC RR-16.
Order from OTS or SLA $4.60 62-25418

Trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros"emki i Kartografii, Trudy (USSR) 1931, v. 4, p. 187-198 and 272-286.

DESCRIPTORS: *Photogrammetry, Scientific research, *Aerial photography, Mapping, *Geodesics, Research program administration, Surveying.

Dubyago, D. I.
FINAL RESULTS OF THE DETERMINATION OF THE FORCE OF GRAVITY IN THE URALS AND ALONG THE VOLGA, CARRIED OUT BY THE KAZAN UNIVERSITY ASTRONOMICAL OBSERVATORY IN 1899-1900, 1902-03. [1962] [8]p. 2 refs. ACIC RR-46.
Order from OTS or SLA $1.10 62-25449

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1908, v. 44, no. 1/2, p. 55-61.

DESCRIPTORS: *Gravity, Measurement, Oscillation, Astronomical geodesics.

Fust, V.
RESULTS OF THE SIBERIAN LEVELING DONE IN 1875 TO 1876 FROM THE VILLAGE OF ZVERINOGOLOVSKAYA TO LAKE BAIKAL. [1962] [49]p. ACIC RR-42.
Order from OTS or SLA $4.60 62-25443

Trans. of [Gosudarstvennoe] Russkoe Geograficheskoe Obshchestvo. Zapiski ... po Obshchei Geografii, 1885, v. 15, no. 1, p. 1-44.

DESCRIPTORS: Tables, *Siberia, Leveling rods, Terrain, Geodesics, *Surveying.

Geller, S. Yu., Vorob'ev, S. N., and Gakkel', Ya. Ya.
THE KARAKUM (DESERT) GEOGRAPHIC EXPEDITION OF 1930 [AND] ASTRONOMIC OBSERVATIONS OF THE EAST-UNGUZ PARTY [AND] ASTRONOMIC WORK OF THE WEST-UNGUZ PARTY. [1962] [32] p. 9 refs. ACIC RR-36 (a-c).
Order from OTS or SLA $3.60 62-25432

Trans. of Akademiya Nauk SSSR. Sovet po Izucheniyu Proizvoditel'nykh Sil. Trudy: Seriya Turkmenskaya, 1934, v. 8, p. 5-7, 9-23, 25-30.

DESCRIPTOR: *Deserts, Geography, Exploration, *Astronomical data, Scientific organization, *Astronomical geodesics, Water supplies.

Kazanskii, I. A., Zverev, M. S., and Kiselev, N. V.
GEODETIC-GRAVIMETRIC WORK CARRIED OUT BY TsNIIGAiK [AND] METHODS OF GRAVIMETRIC DETERMINATION OF THE DEFLECTIONS OF THE VERTICAL. [1962] [34]p. 5 refs. ACIC RR-25.
Order from OTS or SLA $3.60 62-25420

Trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros"emki i Kartografii. Trudy (USSR) 1936, v. 11, p. 2-7 and 59-72.

DESCRIPTORS: *Geodesics, *Gravity, Measurement, *Deflection, Surveying, Determination, Geometric forms, Astronomical geodesics, Gravity anomalies.

Kazinskii, V. A. and Lyustikh, E. N.
PROCEDURE FOR COMPUTING THE ACCELERATION OF GRAVITY [AND] THE GEOLOGICAL SIGNIFICANCE OF VARIOUS METHODS OF COMPUTING GRAVITY ANOMALIES. [1962] [88]p. 33 refs. ACIC G-15.
Order from OTS or SLA $8.10 62-33420

Trans. of Akademiya Nauk SSSR. Institut Teoreticheskoi Geofiziki. Trudy, 1947, v. 2, p. 108-111 and v. 3, p. 3-45.

DESCRIPTORS: *Gravity anomalies, *Gravity, *Acceleration, Geophysics, Geodesics, Terrain, *Geology, Tables, Numerical methods and procedures.

Konopal'tsev, I. M.
THE IMPROVEMENT OF THE PROGRAMS FOR MEASUREMENTS OF HORIZONTAL ANGLES IN THE CHAINS AND NETS OF THE STATE TRIANGULATION. [1962] [22]p. 4 refs. ACIC RR-15.
Order from OTS or SLA $2.60 62-25414

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1955, v. 20, p. 23-34.

DESCRIPTORS: *Surveying, Measurement, *Triangulation, Errors, Corrections, Theodolites, Micrometers, Geodesics.

Lebedev, M.
ACCOUNT OF THE FIELD WORK CARRIED BY MEMBERS OF THE ORENBURG MILITARY TOPOGRAPHIC DIVISION IN 1871-1873 WITH A LIST OF TRIANGULATION POINTS OF THE ORENBURG COSSACKS REGION. [1962] [26]p. ACIC RR-43-C.
Order from OTS or SLA $2.60 62-25445

Trans. of [Gosudarstvennoe] Russkoe Geograficheskoe Obshchestvo. Orenburgskii Otdel. Zapiski (USSR) 1875, v. 3, p. 424-448.

DESCRIPTORS: Military organizations, *Triangulation, *Surveying, Astronomical geodesics, Geodesics, Tables.

Leont'ev, N. F.
REPRESENTATION OF RIVERS AND RIVER VALLEYS ON SMALL-SCALE GEOMORPHOLOGICAL MAPS. 1954 [10]p. (figs. omitted).
Order from OTS or SLA $1.10 62-19040

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geograficheskaya, 1954, no. 3, p. 62-72.

DESCRIPTORS: *Mapping, Reproduction, *Rivers, Scale, Maps, Geography.

Marzahn, Kurt.
ADJUSTMENT OF THE GERMAN BASIC GRAVITY NETWORK (GRAVIMETER AND PENDULUM MEASUREMENTS) (Ausgleichung des Deutschen Schweregrundnetzes). [1962] [63]p. 19 refs. ACIC G-21.
Order from OTS or SLA $6.60 62-25591

Trans. of [Akademie der Wissenschaften, Munich. Deutsche Geodätische Kommission. Veröffentlichungen. Reihe B] (West Germany) 1959, no. 54, 45p.

DESCRIPTORS: *Gravity, *Gravimeters, Germany, Measurement, Calibration, Corrections, Geodesics,

Mikov, D. S.
INTERPRETATION OF MAGNETIC AND GRAVITY ANOMALIES BY THE METHOD OF EXCLUSION OF THE ELEMENTARY FIELDS. [1962] [18]p. ACIC LD-48.
Order from OTS or SLA $1.60 62-25424

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geofizicheskaya, 1956, no. 2, p. 218-225.

DESCRIPTORS: *Terrestrial magnetism, *Gravity anomalies, Analysis, Terrain, Magnetism, Stresses, Geophysics, Graphic analysis.

Mushketov, D. I. and Ochapovskii, B. L.
RESULTS OF PENDULUM GRAVITY DETERMINATIONS IN 1932 AND 1933 IN THE PAMIRS AND IN KARELIA; THE FORCE OF GRAVITY IN THE PAMIRS; GRAVITY IN THE KARELIAN AND NORTHERN DISTRICTS. [1962] [46]p. 6 refs. ACIC RR-47.
Order from OTS or SLA $4.60 62-33413

Trans. of Gosudarstvennoe Geograficheskoe Obshchestvo. Izvestiya (USSR) 1936, v. 68, no. 3, p. 338-366.

DESCRIPTORS: *Gravity, Determination, Gravity anomalies, Geophysics.

Numerov, B. and Gizhitskii, A.
RESULTS OF THE GRAVITATIONAL OBSERVATIONS IN THE GROZNYI REGION IN 1928 [AND] DETERMINATIONS OF GRAVITY ALONG THE SEVERNAYA DVINA RIVER AND ITS TRIBUTARIES IN 1928. [1962] [16]p. ACIC RR-40.
Order from OTS or SLA $1.60 62-25440

Trans. of Akademiya Nauk SSSR. [Institut Teoreticheskoi Astronomii]. Byulleten' 1929, no. 23, p. 21-28.

DESCRIPTORS: *Gravity, Determination, Terrain, Rivers, Gravimeters.

Osinskii, B.
NON-LOGARITHMIC CALCULATION OF GEODETIC COORDINATES BY SIDES OF FIRST-ORDER TRIANGULATION: TABLES. [1962] [15]p. ACIC RR-15.
Order from OTS or SLA $1.60 62-25417

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1958, v. 30, p. 5-11.

DESCRIPTORS: Tables, *Numerical methods and procedures, Functions, Position finding, Ellipsoids, *Triangulation, *Geodesics.

Pomerantsev, I. I.
ON THE FIGURE OF THE GEOID IN THE FERGANSKAYA OBLAST'. [1962] [7]p. ACIC RR-46.
Order from OTS or SLA $1.10 62-25434

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1896, v. 32, no. 1, p. 367-370.

DESCRIPTORS: Geometric forms, Terrain, Deflection, Differential equations, *Geodesics, Astronomical geodesics, Earth.

Pomerantsev, I. I. and Sabanin, B. V.
PRESENT-DAY ASTRONOMIC AND GEODETIC OPERATIONS IN EUROPEAN RUSSIA [AND] THE CONDUCT OF TOPOGRAPHIC- GEODETIC OPERATIONS ON THE SHOR OF KOL'SKII BAY FOR THE CONSTRUCTION OF THE CITY OF MURMANSK. [1962] [38]p. ACIC RR-46.
Order from OTS or SLA $3.60 62-25436

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1918, v. 54, no. 1, p. 3-14 and 121-130.

DESCRIPTORS: *Astronomical geodesics, *Terrain, Construction, Gravity, Acceleration, Triangulation, Urban areas, *Geodesics.

Pudovkin, I. M.
ON VARIATIONS OF THE MAGNETIC FIELD DURING PRODUCTION IN REGIONAL AEROMAGNETIC PRECISION SURVEYS. [1962] [5]p. 1 ref. ACIC LD-48.
Order from OTS or SLA $1.10 62-25423

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geofizicheskaya, 1956, no. 8, p. 997-998.

DESCRIPTORS: *Magnetic fields, Aerial reconnaissance, Surveying, Production, Terrestrial magnetism, Polar regions.

Rainysh, Yu. I. and Volkova, R. I.
GRAPHOANALYTICAL METHOD OF CONSTRUCTING A HYPERBOLIC NET DURING RADIOGEODETIC OPERATIONS. 28 Feb 63 [8]p. JPRS: 17874.
Order from OTS $0.50 63-21223

Trans. of Geofizicheskaya Razvedka (USSR) 1961, no. 6, p. 124-129.

DESCRIPTORS: *Geodesics, Surveying, *Graphic analysis, Radio stations, Electromagnetic waves, Propagation, Geophysical prospecting

Ramsayer, K.
GRAVITY REDUCTIONS OF THE MAIN NET OF LEVELS IN BADEN-WÜRTEMBERG: TABLE OF CONTENTS, PREFACE AND BIBLIOGRAPHY, tr. by H. Tomas. May 61 [27]p. (figs. tables omitted) 138 refs. ACIC TC-259.
Order from OTS or SLA $2.60 62-25587

Partial trans. of Akademie der Wissenschaften, Munich. Deutsche Geodätische Kommission. [Veröffentlichungen. Reihe] A (West Germany) 1957, no. 22, p. 1ff and p. 35ff.

DESCRIPTORS: *Gravity, Reduction, Triangulation, *Bibliographies, *Numerical analysis, Corrections.

Rodevich, Vs. and Kozhevnikov, M.
LIST OF ELEVATIONS IN THE SAYANSKIE MOUNTAINS, URYANKHAISKII KRAY AND MINUSINSK OKRUG, DETERMINED IN 1907-10 BY THE CHIEF OF THE MINISTRY OF TRANSPORTATION PARTY, EXPLORING THE UPPER ENISEI SYSTEM [AND] METHODS FOR PERFORMING ROUTE SURVEYS AND WORKING CONDITIONS IN THE COASTAL REGIONS OF THE NORTHERN ARCTIC OCEAN [1962] [27]p. ACIC RR-46.
Order from OTS or SLA $2.60 62-25448

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1912, v. 48, no. 1/5, p. 171-188 and 343-355.

DESCRIPTORS: *Surveying, *Height finding, Exploration, Terrain, Mapping, *Mountains, Arctic regions, Geodesics.

Salishchev, K.
THE KOLYMA GEOLOGICAL EXPEDITION 1929-30, VOL. II, PT. 1. [1962] [18]p. 7 refs. ACIC RR-34.
Order from OTS or SLA $1.60 62-25431

Trans. from Akademiya Nauk SSSR. Sovet po Izucheniyu Proizvoditel'nykh Sil. Trudy: Seriya Yakutskaya, 1934, v. 17.

DESCRIPTORS: Exploration, Terrain, *Mapping, Meteorological instruments, *Geological survey.

Savel'ev, R.
GEOGRAPHICAL WORKS ON THE EASTERN SLOPES OF THE URALS. [1962] [6]p. 1 ref. ACIC RR-46.
Order from OTS or SLA $1.10 62-25451

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1901, v. 37, no. 3, p. 225-229.

DESCRIPTORS: *Position finding, Mapping, *Mountains *Astronomical geodesics, Chronographs.

Sergievskii.
REPORT OF THE COMMISSION OF THE IMPERIAL RUSSIAN GEOGRAPHICAL SOCIETY FOR THE INVESTIGATION OF GRAVITY IN RUSSIA. [1962] [45]p. ACIC RR-46.
Order from OTS or SLA $4.60 62-25433

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1903, v. 39, no. 5, p. 508-542.

DESCRIPTORS: *Gravity, Scientific research, Measurement, Acceleration, Oscillation, Amplitude modulation, Temperature, Clocks, *Geodesics.

Sludskii, F. A.
THE INVESTIGATION OF LOCAL ANOMALIES OF GRAVITY AND TERRESTRIAL MAGNETISM. [1962] [21]p. 5 refs. ACIC RR-46.
Order from OTS or SLA $2.60 62-25435

Trans. of [Gosudarstvennoe] Geograficheskoe Obshchestvo. Izvestiya (USSR) 1896, v. 32, no. 6, p. 510-524.

DESCRIPTORS: *Gravity anomalies, *Terrestrial magnetism, Measurement, Deflection.

Strasser, Georg.
ELLIPSOIDAL PARAMETERS OF THE FIGURE OF THE EARTH, 1800-1950 (Ellipsoidische Parameter der Erdfigur, 1800-1950). [1962] [192]p. 69 refs. ACIC RR-116; ACIC RR-2.
Order from OTS or SLA $13.50 62-25586

Trans. of [Akademie der Wissenschaften, Munich. Deutsche Geodätische Kommission. Veröffentlichungen. Reihe A] (West Germany) 1957, no. 19.

DESCRIPTORS: *Ellipsoids, Measurement, Geometric forms, *Earth, *Astronomical geodesics, *Gravity, Tables, Deflection, Meters, *Geodesics.

Tillo, A. A.
REPORT ON THE ACTIVITIES OF THE MILITARY TOPOGRAPHIC DIVISION OF THE ORENBURG MILITARY DISTRICT IN 1868. [1962] [11]p. ACIC RR-43-A.
Order from OTS or SLA $1.60 62-25444

Trans. of [Gosudarstvennoe] Russkoe Geograficheskoe Obshchestvo. Orenburgskii Otdel. Zapiski (USSR) 1870, v. 1, p. 259-269.

DESCRIPTORS: Reports, Military organizations, *Surveying, Terrain, Mapping, Astronomical geodesics, Geodesics.

Tovchigrechko, S. S.
CALCULATION OF THE ISOSTATIC REDUCTION OF GRAVITY FOR GRAVIMETRIC POINTS OF THE CRIMEA AND THE BLACK SEA. [1962] [8]p. 2 refs. ACIC RR-23.
Order from OTS or SLA $1.10 62-25419

Trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros"emki i Kartografii. Sbornik (USSR) 1941, no. 7, p. 81-86.

DESCRIPTORS: *Gravity, Gravity anomalies, Black Sea, Maps, Numerical analysis, Hydrographic surveying.

Vinogradov, Nikolai Vasil'evich.
REPRESENTATION OF DRAINAGE ON THE SHEETS OF THE INTERNATIONAL 1:1,000,000 MAP OF THE WORLD, PUBLISHED DURING THE PAST FIFTY YEARS (1891-1941). [1962] [22]p.
Order from OTS or SLA $2.60 62-19038

Trans. of Vsesoyuznoe Geograficheskoe Obshchestvo. Izvestiya (USSR) 1944, v. 76, no. 5, p. 266-276.

DESCRIPTORS: *Mapping, *Drainage, Maps.

Geography

THE ECONOMIC AND GEOGRAPHIC POSITION OF THE LARGE CITIES OF THE U.S.S.R. 1954 [16]p.
Order from OTS or SLA $1.60 62-19045

Trans. of Vsesoyuznoe Geograficheskoe Obshchestvo. Izvestiya (USSR) 1946, v. 78, no. 2, p. 171-182.

DESCRIPTORS: *Economics, *Geography, *Urban areas.

A REPORT ON THE COORDINATED RESEARCH ON THE DESERT REGIONS, 1958, NO. 2, 18 Mar 63 [224]p. 24 refs. JPRS: 18178.
Order from OTS $3.50 63-21341

Trans. of Sha Mo Ti Chu Ti Tsung Ho T'iao Ch'a Yen Chiu Pao Kao (Chinese People's Republic) 1958, no. 2, p. 1-82.

DESCRIPTORS: Reports, Scientific research, *Deserts, *China, Geography, Growth, Surveying, Agriculture, Forestry, Sand, Transformations, Plants (Botany), Geology, Hydrology.

Contents:
Desert lands of North China (Ordos and Eastern Alashan) by M. P. Petrov
Ordos (physical geography) by M. P. Petrov
Deserts in Ho Hsi corridor and their development, by M. P. Petrov

Aleksandrova, V. D.
THE PROBLEM OF DEVELOPMENT IN PHYTOGEOGRAPHY. 19 Mar 63 [33]p. 103 refs. JPRS: 18207.
Order from OTS $1.00 63-21355

Trans. of Moskovskoe Obshchestvo Ispytatelei Prirody. Byulleten'. Otdel Biologicheskii (USSR) 1962, v. [37](67) no. 2, p. 86-107.

DESCRIPTORS: *Plants (Botany), Geography, Growth, *Ecology, Distribution

Horn, W.
THE HISTORY OF THE ISARITHM MAPS (Die Geschichte der Isarithmenkarten). [1962] [27]p. 72 refs.
Order from SLA $2.60 62-20203

Trans. of Petermanns Geographische Mitteilungen (East Germany) 1959, v. 103, p. 225-232.

DESCRIPTORS: History, *Maps, Navigation, Terrestrial magnetism, Terrain, Geography, Geophysics.

Karavaev, M. N.
BASIC REGULARITY OF THE YAKUTIYA LANDSCAPE (Osnovnye Zakonomernosti v Raspredelenii Landshaftov Yakutii) tr. by Nadia Georgevitch. Jan 60 [13]p. 6 refs.
Order from OTS or SLA $1.60 62-33094

Trans. of Nauchnye Doklady Vysshei Shkoly. Geologogeograficheskie Nauki (USSR) 1959, no. 2, p. 46-53.

DESCRIPTORS: *Geography, Forestry, Terrain, Climatology, Soils.

Norman, E. A.
PRECISION ALTIMETER FOR GEOGRAPHICAL INVESTIGATIONS (Technyi Vysotomer dlya Geograficheskikh Issledovanii). 1951 [16]p. 5 refs.
Order from OTS or SLA $1.60 62-19037

Trans. of Vsesoyuznoe Geograficheskoe Obshchestvo. Izvestiya (USSR) 1950, v. 82, no. 3, p. 326-330.

DESCRIPTORS: *Altimeters, Design, Height finding, Manometers, Thermometers, Barometers, Precision equipment, Model tests.

Semenov-Tyan-Snanskii, V. P.
THE WESTERN OBLASTS OF WHITE RUSSIA AND THE UKRAINE (Zapadnye Oblasti Belorussii i Ukraini) tr. by Lawrence Ecker. 20 Mar 46 [13]p.
Order from OTS or SLA $1.60 62-19047

Trans. of Vsesoyuznoe Geograficheskoe Obshchestvo. Izvestiya (USSR) 1940, v. 72, no. 1, p. 3-14.

DESCRIPTORS: *Terrain, Hydrology, Geology, *Geography, Forestry, Climate.

Tychinskii, V. I.
THE DZHUGDZHUR MOUNTAIN RANGE AND ITS GLACIERS (Khrebet Dzhugdzhur i Ego Ledniki). 1948 [5]p.
Order from OTS or SLA $1.10 62-19043

Abstract trans. of Vsesoyuznoe Geograficheskoe Obshchestvo. Izvestiya (USSR) 1945, v. 77, no. 5, p. 261-270.

DESCRIPTORS: *Mountains, *Glaciers, Terrain.

Geology

TRANSACTIONS OF THE GEOPHYSICAL INSTITUTE, ACADEMY OF SCIENCES USSR 1949-50: [SELECTED ARTICLES]. [1962] [277]p. 66 refs. ACIC G-17.
Order from OTS or SLA $17.50 62-33416

Trans. of Akademiya Nauk SSSR. Geofizicheskii Institut. Trudy, 1949, no. 5(132) p. 76-133; no. 7(134) p. 1-93; 1950, no. 12(139) p. 3-21.

DESCRIPTORS: *Gravity, *Acceleration, Gravimeters, *Microseisms, *Geodesics, Geophysics, Lithosphere.

Contents:
The new value for the acceleration of gravity at the Geophysics Institute of the Academy of Sciences USSR, by Yu. D. Bulanzhe
Preliminary results of the determination of the first-order gravimetric station in the village Obi-Garm, by Yu. D. Bulanzhe
The new gravimetric connection between the All-Union Institute of Metrology and Pulkovo, by Yu. D. Bulanzhe
Methods of elaborating geodetic remeasurements performed to discover horizontal deformations in the earth's crust, by V. V. Danilov
The acceleration of gravity in Tbilisi, by N. N. Pariiskii
The influence of microseismic activity upon gravity measurement by pendulum, by N. N. Pariiskii.

Arkhangel'skii, A., Fedynskii, V. V., and Lyustikh, E. N.
GEOLOGICAL RESULTS OF GRAVIMETRIC SURVEYS IN CENTRAL ASIA AND SOUTHWESTERN KAZAKHSTAN [AND] SELECTION OF A SUITABLE REDUCTION OF GRAVITY FOR THE SOLUTION OF GEOLOGICAL PROBLEMS. [1962] [60]p. 19 refs. ACIC G-13.
Order from OTS or SLA $5.60 62-33419

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geologicheskaya, 1936 [v. 1] no. 1, p. 3-33 and 1938 [v. 3] no. 4, p. 659-666.

DESCRIPTORS: *Geological survey, *Gravity anomalies, *Gravity, Reduction, Terrain, Geophysics, Geodesics, Asia.

Bakhtamov, R. and Karasik, G.
EARTH PENETRATION IN DEPTH: BEFORE THE ATTACK ON COSMOS-2. 14 Mar 63 [9]p. JPRS: 18130.
Order from OTS $0.50 63-21324

Trans. of Izobretatel' i Ratsionalizator (USSR) 1962, no. 10, p. 15-16.

DESCRIPTORS: *Well drilling, Drills, Pipes, Petroleum, Rock, Minerals.

A semi-technical discussion of current and proposed deep-drilling techniques.

Balavadze, B. K. and Abakelia, M. S.
RESULTS OF A GEOLOGICAL INTERPRETATION OF GRAVIMETRIC OBSERVATIONS IN THE AKHALTSIKHE COAL FIELD [AND] THE PROBLEM OF THE KYURDAMIR GRAVITY RIDGE IN TRANSCAUCASIA. [1962] [126]p. 128 refs. ACIC G-16.
Order from OTS or SLA $10.10 62-33421

Trans. of Akademiya Nauk Gruzinskoi SSR, Tiflis. Institut Geofiziki. Trudy, 1939, v. 4, p. 97-108 and 1947, v. 10, p. 125-191.

DESCRIPTORS: *Geological survey, *Gravity anomalies, *Gravity, Coal, Deflection, Seismic waves, Geodesics, Geophysical prospecting.

Gadiev, S. M., Geiman, M. A. and others.
ACID TREATMENT OF THE BOTTOM HOLE ZONE OF A FORMATION WITH THE APPLICATION OF VIBRATION. [1963] 7p.
Order from ATS $9.85 ATS-06Q67R

Trans. of Neft[yanoe] Khoz[yaistvo] (USSR) 1962, v. 40, no. 9, p. 51-56.

DESCRIPTORS: *Boreholes, *Acids, Vibration

Gamburtsev, G. A.
DEEP SEISMIC WELL-SHOOTING OF THE EARTH'S CRUST. Aug 62 [9]p. 5 refs. VESIAC-2294.
Order from OTS or SLA $1.10 62-33489

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1952, v. 87, no. 6, p. 943-946.

DESCRIPTORS: *Geology, *Seismic waves, Seismographs, Earthquakes, *Earth, Geophysics, Lithosphere.

Godin, Yu. A. and Egorkin, A. V.
ARCHITECTURE OF THE EARTH'S CRUST FROM DATA OF REGIONAL SEISMIC WORK PERFORMED IN THE SOUTHEAST OF THE RUSSIAN PLATFORM. [1962] [11]p. (figs. omitted) 7 refs. VESIAC-2295.
Order from OTS or SLA $1.60 62-33490

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 135, no. 5, p. 1123-1126.
Another trans. is available from AGI $8.00

DESCRIPTORS: *Geology, *Seismic waves, Seismographs, *Earth, Geophysics, Lithosphere.

Godin, Yu. N.
INTEGRATED REGIONAL GEOPHYSICAL INVESTIGATIONS OF THE SOUTHEAST OF THE RUSSIAN PLATFORM. [1962] [29]p. (figs. omitted) 11 refs. VESIAC-1844.
Order from OTS or SLA $2.60 62-33491

Trans. of #Geologiya Nefti [i Gaza] (USSR) 1958 [v. 2] no. 5, p. 37-48.

DESCRIPTORS: *Geophysics, Seismographs, Mechanical waves, Seismic waves, Measuring devices, Gravity anomalies, Magnetism, Geology.

Kim, V. Yu.
AN APPROXIMATE SOLUTION FOR THE PROBLEM OF NONSTEADY-STATE FLOW OF FLUID TO A WELL WITH A GIVEN BOTTOM-HOLE PRESSURE. [1963] 7p.
Order from ATS $8.00 ATS-00Q67R

Trans. of Akad[emiya] Nauk SSSR. Otd[elenie] Tekhn[icheskikh] Nauk. Izv[estiya:] Mekhan[ika] i Mashinostr[oenie] 1961, no. 5, p. 174-177.

DESCRIPTORS: Well drilling, Boreholes, *Fluid flow Pressure

Lavrova, M. A.
ON THE PROGRESS OF OPERATIONS OF THE NOVAYA-ZEMLYA EXPEDITION OF THE ACADEMY OF SCIENCES IN THE SUMMER OF 1925. [1962] [22]p. 7 refs. ACIC G-11.
Order from OTS or SLA $2.60 62 33414

Trans. of Akademiya Nauk SSSR. Geologicheskii Institut. Trudy, 1931, v. 1, p. 1-14.

DESCRIPTORS: *Geological survey, Stratigraphy, Terrain, Exploration, Glaciers, Arctic regions.

Lyashenko, G. P.
NEW DATA CONCERNING THE DEVONIAN TENTACULITES. [1962] 19p. (12 figs. omitted) 7 refs.
Order from OTS or SLA $1.60 62-23744

Trans. of [Paleontologicheskii Sbornik (USSR) 1954, no. 1, p. 31-43].

DESCRIPTORS: *Paleoecology, *Geology, *Stratigraphy, Deposits, Classification, Mollusca, Marine geology.

Milashev, V. A.
NEW DATA ON THE GEOLOGY OF KIMBERLITES (Novye Dannye po Geologii Kimberlitov). Sep 62 [5]p. RTS 2143.
Order from OTS or SLA $1.10 62-32963

Trans. of [Nauchno-Issledovatel'skii] Inst[itut] Geolog[ii] Arktiki. Inform[atsionnyi] Byulleten' (USSR) 1958, no. 12, p. 12-15.

DESCRIPTORS: *Stratigraphy, *Petrology, *Geology, Rock (Geology), Crystal structure, Garnet, Spinels, Economic geology.

Some kimberlite bodies were formed before or during the Early Permian while others were formed in the Lat Jurassic or Cretaceous. (Author)

Slavin, P. S., Klyachkina, F. G., and Neverova, V. I.
RELATIONSHIP BEGWEEN THE COMPOSITION OF DISPERSED BITUMENS AND GASES AND THE OXIDATION-REDUCTION PROPERTIES OF THE CARRIER ROCKS. [1963] 4p.
Order from ATS $7.50 ATS-07Q67R

Trans. of #Geol[ogiya] Nefti i Gaza (USSR) 1962, v. 6, no. 8, p. 50-52.

DESCRIPTORS: Rock, *Bitumens, *Gases, Oxidation-reduction reactions, Geochemistry.

Tikhonov, A. N. and Shakhsuvarov, D. N.
ON THE POSSIBILITY OF USING THE IMPEDANCE OF THE NATURAL ELECTROMAGNETIC FIELD OF THE EARTH IN THE STUDY OF THE EARTH'S UPPER LAYERS (O Vozmozhnosti Ispol'zovaniya Impedansa Estestvennogo Elektromagnitnogo Polya Zemli dlya Izuchesiya Ee Verkhnikh Sloev). [1962] [25]p. (foreign text included) 3 refs.
Order from OTS or SLA $2.60 62-18527

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geofizicheskaya, 1956, no. 4, p. 410-418.

DESCRIPTORS: *Electric impedance, *Electromagnetic fields, *Geophysics, Electromagnetic waves, Phase measurement.

Vasil'ev, Yu. S., Sivokhina, N. B., and Bronzov, A. S.
THE ALLOWABLE DEVIATION OF WELL BORES. [1963] 6p.
Order from ATS $10.00 ATS-51P65R

Trans. of Neft[yanoe] Khoz[yaistvo] (USSR) 1962, v. 40, no. 8, p. 8-13.

DESCRIPTORS: *Well drilling, *Boreholes

Zershchikov, A. E.
METHODE DE CONTRÔLE AU MOYEN DES RADIO-ISOTOPES DU TRAITEMENT PAR L'ACIDE, CHLORHYDRIQUE DES COUCHES DE SÉDIMENTS CARBONATÉS [Using Carbonate Radioactive Isotopes for Controlling the Acidization of Wells] tr. by B. de Trezvinsky. 25 Mar 62 [11]p.
CEA Trans. no. R 1601 (text in French).
Order from OTS or SLA $1.60 62-33257

Trans. in French of [Geologiya Nefti i Gaza] (USSR) 1958, v. 2, no. 3 [p. 49-51].

DESCRIPTORS: *Carbonates, *Radioactive isotopes, Control, Well drilling, Acids, *Sedimentary Rock, Hydrochloric acid.

Zoricheva, A. I. and Sedova, M. A.
SPORE-POLLEN COMPLEXES OF UPPER-PERMIAM DEPOSITS OF SOME NORTHERN REGIONS OF THE EUROPEAN PART OF THE U. S. S. R. [Sporovo-Pyl'tsevye Kompleksy Verkhnepermskikh Otlozhenii Nekotorykh Raionov Severa Evropeiskoi Chasti SSSR]. Apr 62, 55p. (tables plates omitted) 13 refs.
Order from OTS or SLA $5.60 62-24501

Trans. of mono. [Materialy po Palinologii i Stratigrafii. Sbornik Statei] (Material on Palynology and Stratigraphy) Moscow, 1954, p. 160-175.

DESCRIPTORS: Geology, Paleoecology, *Spores, *Pollen, Deposits, Classification, Stratigraphy.

Oceanography

Beklemishev, K. V.
THE ROLE OF DEEP WATERS OF POLAR AND SUB-POLAR ORIGIN IN THE ENRICHMENT OF DEEP-SEA PLANKTON. [1962] [10]p. 23 refs. [DSIR] NLL M. 3479.
Order from OTS or SLA $1.10 62-23950

Trans. from [Moskovskoe Obshchestvo Ispytatelei Prirody. Byulleten'. Otdel Biologicheskii] (USSR) 1960, v. [35] (65), no. 3.

DESCRIPTORS: *Marine biology, *Antarctic regions, *Plankton, Sea water, *Oceanography, Atlantic Ocean, Pacific Ocean, Indian Ocean, Ocean currents, Algae, Crustacea, Nutrition.

In view of the fact that in the polar and sub-polar convergences a large quantity of surface water sinks, to form the bulk or the deep water, the deep-water currents are relatively rich in life and in dissolved organic matter. They carry both with them for considerable distances beneath the barren surface water of the tropics. Thus, the enrichment of the deep water is not accidental but is a general principle. Losing the food resources which they carried with them from the surface, the deep waters of polar and sub-polar origin enrich the abyssal plankton and possibly also the benthos. It is important to ascertain at what distance from each of the convergences their influence is still felt on the deep-sea plankton. The material of this article shows that the deep waters of antarctic origin show an influence for at least 5500 km from the place of their submergence. Those which sink in the northern part of the Pacific Ocean probably do not extend so far. (Author)

Bruevich, S. V. and Gudkov, M. P.
ATMOSPHERIC DUST OVER THE CASPIAN SEA [Atmosfernaya Pyl' nad Kaspiiskim Morem). 1955 [14] p. 32 refs.
Order from OTS or SLA $1.60 62-19048

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geograficheskaya, 1954, no. 4, p. 18-28.
Another trans. is available from SLA as RT-3171.

DESCRIPTORS: Atmosphere, *Particles, Caspian Sea, Dust storms, *Sedimentation, Meteorological phenomena

Hinkelmann, Hans.
APPARATUS FOR HIGH-SPEED RECORDING IN OCEANOGRAPHY (Gerät zur Schnellregistrierung in der Ozeanographie) tr. by D. A. Sinclair. 1963, 20p. 8 refs. NRCC Technical trans. 1062.
Order from NRCC $1.00 NRCC C-4295

Trans. of Z[eitschrift für] Angew[andte] Physik (West Germany) 1957, v. 9, no. 10, p. 505-513.

DESCRIPTORS: Oceanology, *Oceanographic equipment, *Recording systems, Pressure, Temperature, Resistance thermometers, Manometers, Oscillators, Tests.

Ivanov, A. P. Kirillov, I. F. and others.
HYDROMETEOROLOGICAL OBSERVATIONS BY THE WHALING SHIP SLAVA -15 OF THE ANTARTIC WHALING FLEET IN 1955-58 AND PELAGIC HYDROLOGICAL OBSERVATIONS IN 1950-51 AND 1953-58, CHAP. IV: WIND WAVES IN THE AREA OF BUVE (BOUVET) ISLAND IN ANTARCTICA (Gidrometeorologicheskie Nablyudeniya na Kitoboinom Sudne "Slava-15" Antarkticheskoi Flotilii v 1955-58 GG. i Glubokovodnye Gidrologicheskie Nablyudeniya v 1950-51 i 1953-58 GG. Vetrovye Volny v Antarktike v Rayonne O. Buve) tr. by M. Slessers. 1962 [24]p. 13 refs. HO Trans-153.
Order from OTS or SLA $2.60 62-33571

Trans. of Gosudarstvennyi Okeanograficheskii Institut. Trudy (USSR) 1960, v. 58, p. 252-267.

DESCRIPTORS: *Antarctic regions, *Wind, *Ocean waves, Marine meteorology, Oceanographic data, Storms.
On the basis of observations carried out from aboard whaling ships, the main properties of wave regime in the area of Buve (Bouvet) Island have been elucidated. The information on maximum heights of wind waves in Antarctic waters is furnished and recommendations for computations of wave heights at various wind speeds are given. Tables permitting the forecasting of the time of wave development and decay in approximation are listed. The significance of wind waves for commercial vessels is pointed out and examples showing the effect of storm waves on the AKF vessel Slava are given. (Author)

Titov, L. F., ed.
WIND WAVES (Vetrove Volny) tr. by M. Slessers. 1962 [228]p. 152 refs. HO Trans-134.
Order from OTS or SLA $18.00 62-33084

Trans. of Akademiya Nauk SSSR. Okeanograficheskaya Komissiya. Trudy, 1960, v. 9, 203p.

DESCRIPTORS: *Water waves, *Ocean waves, *Lake waves, *Wind, Field theory, Mathematical analysis, Statistical analysis, Spectrographic analysis, *Ships, Oceanographic vessels, *Oceanographic equipment, *Aerial photography, Structures, Impact shock, Atlantic Ocean.

Contents:
Foreword
Basic problems of studying wind waves and methods of their solution, by L. F. Titov
Application of the equation of the field of wind waves for prognostic purposes, by V. V. Shuleikin
Modern methods of quantitative characteristics of sea waves, by I. N. Davidan
Research of statistical characteristics of irregular win waves in a limited reservoir, by V. A. Lukashevskii and O. P. Shorygin
Special properties of sea waves used for examining seaworthiness of ships, by N. N. Rakhmanin
On the approach to and the methods of solving problems when estimating wind waves in the sea, by M. S. Grushevskii
Calculation of the decay of sea waves in a weakening wind, by M. S. Grushevskii
On the question of three-dimensional sea waves, by Yu. D. Sharikov
Calculation of parameters of wind waves when determining wave pressure on hydrotechnical structures, by L. G. Sidorov and G. F. Krasnozhon
Calculation of the elements of wind waves for the North Atlantic, by N. O. Solntseva and M. M. Zubova
Calculation of the elements of wind waves during the cruise of the expedition vessel Mikhail Lomonosov, by N. O. Solntseva
Peculiarities of wind wave motion on Tsimlyansk, by E. F. Semenov
Some results of observations on wave motion in the White Lake (Beloe Ozero or Ozero Beloe) by Ya. B. Sokolin
Methods of ship wavegraph observations, by A. P. Morozov
Stereophotography of wave motion in the sea from two airplanes, by I. A. Cherkasov
Laboratory research of wave action on structures, by M. E. Plakida.

Tsiklauri, I. D. and Boris, L. I.
AN EXPERIMENT TO CALCULATE TIDAL PHENOMENA BY MEANS OF THE "URAL-1" DIGITAL COMPUTER (Opyt Rascheta Prilivnykh Yavlenii s Ispol'zovaniem Elektronnoi Tsifrovoi Mashiny "Ural-1") Apr 62 [21]p. 9 refs. RTS 2070.
Order from OTS or SLA $2.60 62-24362

Trans. of Gidrometeorologicheskii] Inst[itut] Leningrad. Trudy (USSR) 1961, v. 10, no. 1, p. 157-172.

DESCRIPTORS: Ocean currents, *Tides, Mathematical analysis, *Digital computers, *Yellow Sea, Periodic variations.

The article is concerned with an experiment in using the "Ural-1" computer to calculate the tides in the north-western bays of the Yellow Sea, and certain recommendations are suggested on the basis of the calculation for the application of the method. (Author)

Voronina, N. M.
ON THE DISTRIBUTION OF MACROPLANKTON IN THE NORTHERN HALF OF THE INDIAN OCEAN, tr. by W. G. Van Campen. May 62, 13p. 26 refs.
Order from OTS or SLA $1.60 63-15152

Trans. of Okeanologiya (USSR) 1962, v. 2, no. 1, p. 118-125.

DESCRIPTORS: *Marine biology, *Plankton, Distribution, *Indian Ocean, Ocean currents.

This work is based on materials from the 31st cruise of the research vessel Vitiaz in the northern part of the Indian Ocean. For the quantitative characterization of the macroplankton data from echo-sounder traces on the frequency of encounter of sound-scattering layers and collections by the Isaacs-Kidd midwater trawl was utilized. The following aquatoriae were identified; (a) very rich waters (macroplankton trace uninterrupted); (b) moderately rich (frequency of recording of macroplankton greater than 50 percent); (c) poor waters (frequency of recording less than 50 percent). Areas rich in macroplankton are linked with the areas rich in microplankton, but are displaced from them in correspondence with the direction of the meridional components of the currents to a distance depending on the period of development of the macroplankton and the velocity of the currents. A discussion of the mechanism which determines the interdependence of the horizontal distributions of aggregations of organisms belonging to different trophic levels is given. (Author)

Physics of the Atmosphere

Benediktov, E. A. and Eidman, V. Ya.
ON INCOHERENT RADIO EMISSION PRODUCED BY THE MOVEMENT OF CHARGED PARTICLES IN THE EARTH'S MAGNETIC FIELD (O Nekogerentnom Radioizluchenii, Voznikayushchem pri Dvizhenii Zaryazhennykh Chastits v Zemnom Magnitnom Pole) tr. by Zanis Stuberovskis. 5 Mar 62 [13]p. 15 refs. E-T-R-61-11.
Order from OTS or SLA $1.60 62-25650

Trans. of #Izvestiya Vysshikh Uchebnykh Zavedenii. Radiofizika (USSR) 1961, v. 4, no. 2, p. 253-258.

DESCRIPTORS: Radio astronomy, Van Allen radiation belt, Magnetic fields, *Charged particles, *Radio signals, *Cerenov radiation, *Ionosphere.

An inquiry is made into incoherent radio emission of fast charged particles in the ionosphere of earth taking into account its magnetic field. Quantitative estimations are given of the intensity of radiation in the medium frequency band. (Author)

Burkhard, Otto.
SIMULTANEOUS FLUCTUATIONS OF THE F2 LAYER IONIZATION IN TWO OBSERVATION STATIONS VERY DISTANT FROM ONE ANOTHER, tr. by J. M. Sprecher. 9 Feb.61 [7]p. 4 refs.
Order from OTS or SLA $1.10 62-23843

Trans. of reprint of mono. [Gleichzeitige Schwankungen der F2 Schicht Ionisation an Zwei Weit Voneinander Entfernten Beobachtungsstationen] Graz, 1955.

DESCRIPTORS: *Ionosphere, Ionospheric disturbances, *Ionization, Statistical functions, Statistical analysis.

The simultaneous appearance of short time ionization fluctuations of F2 layers that are a great distance apart could be proved by a series of measurements that were taken in the same month (January, 1953) in Graz and in Capetown. Actually, high correlation values (up to r = 0.725) were only obtained for recorded observations taken at the same world time, while the correla- with mutually increasing temporal displacement dropped rapidly to minimal values. An easy interpretation of the here proven rule is perhaps only possible under the presupposition that the ionizing radiation energy is subjected to short time fluctuations. (Author)

Krasnushkin, P. E. and Kolesnikov, N. L.
INVESTIGATION OF THE LOWER IONOSPHERE BY MEANS OF LONG RADIO WAVES AND LOW-FREQUENCY PROBES INSTALLED ON A ROCKET: DETECTION OF A NEW IONOSPHERIC LAYER (Issledovanie Nizhnei Ionosfery s Pomoshch'yu Dlinnykh Radiovoln i Nizkochastotnymi Radiozondami, Ustanovlennymi na Rakete: Obnaruzhenie Novogo Sloya Ionosfery). Prepared in response to AID Work Assignment no. 35, Task 12. 21 Dec 62 [6]p. 13 refs. AID rept. 62-207.
Order from OTS or SLA $1.10 63-13737

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 146, no. 3, p. 596-599.

DESCRIPTORS: Rocket research, *Sounding rockets, *Radiosondes, Radio waves, Low frequency, *Ionosphere, Atmospheric sounding.

Mirtov, B. A.
THE GAS COMPOSITION OF THE EARTH'S ATMOSPHERE AND METHODS OF ITS ANALYSIS: TABLE OF CONTENTS, tr. by A. Pingell. 1962, 3p. N R L Trans. no. 884.
Order from OTS $0.50 62-11593

Partial trans. of mono. Gazovyi Sostav Atmosfery Zemli i Metody Ego Analiza, Moscow, 1961, 262p.

DESCRIPTORS: *Atmosphere, *Gases, Analysis, Upper atmosphere, Atmospheric sounding, Sounding rockets, Mass spectroscopy, Literature, Indexes, Gas analysis.

Seismology

Agard, J.
STATISTICAL STUDY OF TRIPLE THEORETICAL REFLECTIONS. 6 Dec 60, 8p. (figs. omitted).
Order from SLA $1.10 62-20287

Trans. of Geophysical Prospecting (Netherlands) 1960, v. 8 [no. 2] p. 269-304.

DESCRIPTORS: Geophysics, *Seismographs, Seismic waves, *Reflection, Statistical analysis, Probability.

The purpose of this study is to construct a synthetic seismogram, considering only simple reflections and triple reflections, where the second reflection may take place at the surface or in depth, and furthermore, limiting oneself to those which bring a substantial contribution. The problem consists in determining the limit value H of the coefficients of reflection below which their contribution, in the form of triple reflections, is negligible. The effect of the coefficients of transmission will not be taken into account. (Author)

Sobolev, S. L.
ON THE PROBLEM OF INTEGRATION OF THE WAVE EQUATION IN A NON-UNIFORM MEDIUM (K Voprosu ob Integrovanii Vodnovgo Vravneniya v Neodnorodnoi Srede) tr. by Sergey Shewchuck. Mar 62, 53p. (foreign text included).
Order from OTS or SLA $5.60 UCRL Trans-799(L)

Trans. of Akademiya Nauk SSSR. Seismologicheskii Institut. Trudy, 1933, v. 42, p. 1-26.

DESCRIPTORS: *Seismic waves, Mathematical analysis, *Integral equations.

Ulomov, V. I.
STATISTICAL ANALYSIS OF RECORDS OF NEAR EARTHQUAKES, AND THE STRUCTURE OF THE EARTH'S CRUST IN CENTRAL ASIA [1962] [20]p. (figs. omitted) 14 refs. VESIAC-2296.
Order from OTS or SLA $1.60 62-33516

Trans. of Akademiya Nauk U[zbekskoi] SSR [Tashkent]. Izvestiya. Seriya Fiziko-Matematicheskikh Nauk, 1960, no. 6, p. 78-92.

DESCRIPTORS: *Earthquakes, *Seismic waves, *Stratigraphy, Geophysics, Gravity anomalies, *Statistical analysis, Asia.

In this paper a new method for studying the structure of the earth crust is presented based on the characteristics of the arrival times of elastic waves from near earthquakes to a seismic station of any type.

Urupov, A. K.
CERTAIN PECULIARITIES OF PARTIAL-MULTIPLE REFLECTED WAVES [O Nekotorykh Osobennostyakh Chastichno-Kratnykh Otrazennykh Voln]. [1962] 24p. 4 refs.
Order from OTS or SLA $2.60 62-18526

Trans. of Moskovskii Neftyanyi Institut. Trudy (USSR) 1957, v. 18, p. 168-183.
Another trans. is available from LC or SLA m$2.40, ph$3.30 as 60-19883, RTS-1405, June 60 [16]p.

For abstract see Technical Translations 4: 392, 1960.

ENGINEERING

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 108 (ELECTRONICS, ENGINEERING, AND SPACE RESEARCH SERIES). 19 Mar 63 [34]p. JPRS: 18227.
Order from OTS $1.00 63-21366

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and East Germany.

DESCRIPTORS: *Abstracts, Bibliography, *Electronics, Engineering, Space flight, *Automation, *Computers, Control systems, *Electronic equipment, Magnetism, *Measuring devices (Electrical and electronic), *Semiconductor devices.

CENTRIFUGATION MACHINE. [1962] 5p.
Order from ATS $7.50 ATS-94Q66F

Trans. of French patent 1,252,323, by Ceskoslovenska Akademie Ved, filed 12 Mar 60, granted 19 Dec 60.

DESCRIPTORS: *Centrifuges, Design.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 57. 7 Mar 63 [33]p. JPRS: 17998.
Order from OTS $1.00 63-21267

Trans. of Molodezh Estonii (USSR) 1962, 1 Nov, p. 2; and from Pravda, Leningrad (USSR) 1962, 14 Sep, p. 2; 30 Sep, p. 1, 4; Rabochaya Gazeta (USSR) 1962, 27 Nov, p. 2; Pravda, Moscow (USSR) 1962, 10 Oct, p. 4; 18 Oct, p. 3; Izvestiya (USSR) 1962, 22 Sep, p. 3; 10 Oct, p. 6; Ekonomicheskaya Gazeta (USSR) 1962, no. 41[62] p. 3; no. 42[63] p. 5 and 192.

DESCRIPTORS: *Industrial production, *Precision equipment, Dental materials, *Industrial plants, Construction, *Analog systems, Pneumatic systems, *Lighting equipment, *Television receivers, Ceramic materials, *Flowmeters, Miniature electrical equipment.
Contents:
Dental materials plant and laboratory completes 25 years of activity
Reconstruction of L'vov television plant, by V. Zelenskii
Pneumatic analogue simulator
Low-quality incandescent and fluorescent bulbs produced by Erevan electric bulb plant, by R. Avakyan
Improvement of television receivers hampered by technical policies, by B. Alievskii and others
Neon sign test department
Buying raw materials for radioceramics locally reduces costs
Industry lags far behind in production of fluorescent bulbs, by V. Spirkin
Automatic timekeeping and communications installation
Obstacles to the production of water meters in Tallin, by S. Spartak
The first mechanized shop for assembling television sets
Production of microminiaturized lamps at the Gvardeets plant, by Z. Fedorova.

VARIATIONAL METHODS IN PROBLEMS OF VIBRATION OF LIQUID AND LIQUID-FILLED BODIES: COLLECTION OF ARTICLES. 17 Dec 62, 2p. AID rept. 62-203.
Order from OTS or SLA $1.10 63-13709

Review of mono. Variatsionnye Metody v Zadachakh o Kolebanii Zhidkosti i Tela s Zhidkost'yu; Sbornik [Statei] Moscow, 1962, 245p.

DESCRIPTORS: *Tanks (Containers), Liquids, Vibration, Dynamics, Analysis of variance.

Lebedeva, N. N., ed.
HANDBOOK FOR POWER WORKERS: TABLE OF CONTENTS. [1962] [8]p.
Order from OTS or SLA $1.10 62-19035

Trans. of mono. Spravochnik Energetika na Stroitel'stve, Moscow, 1954, table of contents.

DESCRIPTORS: *Handbook, *Indexes, Engineering, Electrical engineering, Safety, Mechanical engineering.

Meiners, K.
HEAT TRANSFER IN A HORIZONTAL SHAFT HEATED AT ONE END [Warmeübergang an der Einseitig Beheizten, Waagerechten Wellen) tr. by D. H. Hill. 1959 [14]p. 3 refs. UKAEA IG Information Series 12 (RD/R); [DSIR NLL M. 1468].
Order from OTS or SLA $1.60 62-32398

Trans. of V[erein] D[eutscher] I[ngenieure]. Zeitschrift (West Germany) 1957, v. 99 [no. 15] p. 667-671. Another trans. is available from SLA mi$2.70, ph$4.80 as 59-20149 [1959] [25]p.

DESCRIPTORS: *Heat transfer, *Shafts, Rotation, Convection, Boundary layer.

In engineering, the laws of heat transfer at a rotating shaft, heated at one end, are of special importance, since in many thermal calculations - such as a determination of the operating temperature of bearings, gears, couplings or brakes - the question impinges on the heat dissipation from or the thermal conductivity of a shaft. With such applications in mind, research has been conducted into the determination of heat transfer coefficients for a horizontal shaft, heated at one end. In addition to the heat transfer data required, the research gave an insight into the very complex flow phenomena at heated rotating shafts. (Author)

Moskatov, K. A.
AIRPLANE LANDINGS ON ICE (O Posadke Samoletov na Led) tr. by Michael M. Dane and others. 27 Sep 54 [26]p. 4 refs.
Order from OTS or SLA $2.60 63-15594

Trans. of Arkticheskii [i Antarkticheskii Nauchno-Issledovatel'skii] Institut. Trudy (USSR) 1938, v. 110, p. 43-55.
Another trans. is available from SLA as R-4406, 24p.

DESCRIPTORS: *Arctic regions, *Landing fields, *Ice islands, *Airplane landings, Landing gear, Skis, Ice, Physical properties, *Sea water, Salinity.

Popov, E. P. and Pal'tov, N. P.
APPROXIMATE METHODS FOR ANALYZING NONLINEAR AUTOMATIC SYSTEMS. 24 Jan 63 [1030]p. 348 refs. FTD-TT-62-910.
Order from OTS or SLA $36.00 63-15536

Unedited rough draft trans. of mono. Priblizhennye Metody Issledovaniya Nelineinykh Avtomaticheskikh Sistem, Moscow, 1960, 792p.

DESCRIPTORS: *Automation, *Control systems, *Nonlinear systems, Analysis, Oscillation, Feedback, *Harmonic analysis, Signals, Stability, Hysteresis, Gyroscopes, *Servomechanisms, Temperature control, Induction motors, Accelerometers, Integrators, Relays, Speed regulators, *Transients.

Contents:
Introduction
The foundations of the method of harmonic linearization and comparison with other methods
Harmonic linearization of nonlinearities in the presence of symmetrical oscillations
Symmetrical self-oscillations and stability of automatic systems
Passage of slowly varying signals in self-oscillating systems. Asymmetrical self-oscillations
Self-Oscillations and Stability of automatic systems for nonsymmetrical nonlinearities and in the case of an external disturbance
Evaluation of quality of transient processes
Calculation of higher harmonics of self-oscillations
Forced oscillations of nonlinear systems
Random processes in nonlinear systems

Chemical Engineering

PRODUCTION OF OLEFIN POLYMERS OF HIGH MOLECULAR WEIGHTS AND IN POWDERS OF HIGH APPARENT DENSITY. [1962] 12p.
Order from ATS $18.65 ATS-78P66F

Trans. of French patent 1,296,142, by Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Brunung, Germany, filed 3 June 61, granted 7 May 62.

DESCRIPTORS: Polymers, *Polyethylene plastics, Production, Powders, Density.

USES OF Hf (HAFNIUM AND ITS COMPOUNDS [AND] COMPOUNDS OF HAFNIUM. [1962] [7]p. 48 refs.
Order from SLA $1.10 62-20198

Trans. of Gmelins Handbuch [der Anorganischen Chemie] (Germany) n. d., system 43 (Hafnium) p. 8 and 20-23.

DESCRIPTOR: *Hafnium, *Hafnium compounds, Abstracts.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 51. 6 Mar 63 [37]p. JPRS: 17982.
Order from OTS $1.00 63-21261

Trans. of Partiinaya Zhizn' Kazakhstana (USSR) 1962 [v. 32] no. 9, p. 52-54; Referativnyi Sbornik. Ekonomika Promyshlennosti (USSR) 1962, no. 10, p. 118-119; and from Turkmenskaya Iskra (USSR) 1962, 1 Nov; Pravda, Moscow (USSR) 1962, 29 Nov; Leninskoe Znamya (USSR) 1962, 30 Oct; Trud, Moscow (USSR) 1962, 31 Oct.

DESCRIPTORS: *Industrial production, *Chemical industry, *Petroleum industry, Refineries, Economics, Scientific research, *Industrial plants, Tires, Synthetic rubber, Polyethylene plastics.

Contents:
Outlook for the development of the petroleum refining and chemical industry in Turkmeniya, by S. R. Sergienko
Full scope for the development of chemistry
Industrial utilization of scientific research achievements, by V. Rogov and A. Litvinenko
Lagging construction of synthetic rubber and tire plants in Omsk, by V. Vernikov
Lagging construction of the polyethylene plant in Gur'vev, by I. Sverbikhin
Study of the consumption structure of the output by the chemical industry, by Z. Kiryanova.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 52. 7 Mar 63 [41]p. JPRS: 17996.
Order from OTS $1.00 63-21266

Trans. of Kommunist, Moscow (USSR) 1962 [v. 39] no. 18, p. 73-82; and from Sovetskaya Latviya (USSR) 1962, 16 Dec; Pravda Ukrainy (USSR) 1962, 16 Dec; Trud, Moscow (USSR) 1962, 16 Dec; Kommunist, Erevan (USSR) 1962, 18 Dec.

DESCRIPTORS: *Industrial production, *Chemical industry, Industrial plants, *Polyethylene plastics, *Plastic pipes, Plastics

Contents:
The Riga polyethylene products plant, by I. Staivo
Expand faster the chemical industry in the Ukraine
Expedite the production of plastic pipe in Dnepropetrovsk, by S. Grigor'ev
Placing chemical-industry projects under public supervision in the Sverdlovskii Sovnarkhoz, by S. Ogarkov and others
Chemical industry in the Armenian SSR, by K. Rukhikyan
Production of synthetics in the USSR, by B. Rodin.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 53. 8 Mar 63 [45]p. JPRS: 18030.
Order from OTS $1.25 63-21282

Trans. of 15 articles from selected Nov 62 issues of Izvestiya (USSR) and Pravda, Moscow (USSR).

DESCRIPTORS: *Industrial production, Chemical industry, *Tires, Polymers, *Glass textiles, *Synthetic rubber, *Polyethylene plastics, *Silicone plastics, *Polyvinyl chloride, *Halocarbon plastics, *Expanded plastics, Porous materials, *Ion exchange resins, *Plastic paints, *Acetal plastics, Propenes.

Contents:
Chemical industry in the Volgogradskii sovnarkhoz, by I. Sinitsyn
New tires at the Yaroslavl' tire plant
Develop the chemical industry on a large scale
The great future of polymer chemistry, by V Kargin
The development of glass plastics, by P. Li and others
Producing quality synthetic-rubber tires, by B. Dolgoplosk
Soviet production of polyethylene, by N. Egorov and others

Development of the production of silicon polymers, by K. Andrianov
The varied application of polyvinyl chloride, by M. Akutin
The development of fluoroplastics, by L. Chereshkevich and D. Chegodaev
The development of porous and foam plastics, by N. Napalkov
The development of ion exchangers, by A. Pashkov and K. Saldadze
The development of polymer paints and lacquers, by P. Zubov
The development of polyformaldehyde, by F. Oleinik
The development of polypropylene, by B. Krentsel'

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 54. 11 Mar 63 [39]p. JPRS: 18054.
Order from OTS $1.00 63-21295

Trans. of Narodnoe Khozyaistvo Uzbekistana (USSR) 1962 [v. 4] no. 11, p. 25-29; Referativnyi [Sbornik]. Ekonomika Promyshlennosti (USSR) 1962, no. 11, p. 132-135; and from Stroitel'naya Gazeta (USSR) 1962, 7 Dec; Kommunist, Erevan (USSR) 1962, 28 Nov; Kazakhstanskaya Pravda (USSR) 1962, 28 Nov.

DESCRIPTORS: Industrial production, *Chemical industry, *Chemical engineering, *Chemistry, Plastics industry, Fertilizers, Synthetic rubber, Ammonium radicals, Nitrates, Sulfuric acid, Tires, Polyvinyl chloride, Floor coverings, Starches, Alcohols, Economics.
Contents:
Lag in expansion of the Nizhnii Tagil plastics plant, by I. Morozov
The Kirovakan chemical combine expands production, by Zh. Pyuskyulyan
Prospects for synthesis industry in Kazakhstan
Ammonium nitrate production at the Fergana nitrogenous fertilizer plant, by Igor' Ustimenko
The status and development of the chemical industry, by Z. Kir'yanova
Determining the economic effectiveness of new equipment at tire plants, by Z. Kir'yanova
The economic benefits of introducing vinyl polychloride linoleum, by Z. Kir'yanova
Combining the production of alcohol and starch in the Ukraine, by Z. Kir'yanova
Mutual cooperation of the European satellite countries in the field of chemical industry, by Z. Kir'yanova.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 55. 11 Mar 63 [36]p. JPRS: 18064.
Order from OTS $1.00 63-21299

Trans. of na Stroikakh Rossii (USSR) 1962, no. 12, p. 10-11; and from Rabochaya Gazeta (USSR) 1962, 21 Dec; Pravda Vostoka (USSR) 1962, 7 Dec; 13 Dec; Ekonomicheskaya Gazeta (USSR) 1962, no. 41[62] p. 42; no. 49[70] p. 4, 41.

DESCRIPTORS: *Industrial production, *Chemical industry, Industrial plants, Construction, Supplies, Lactams, *Fertilizers, Urea, Formaldehyde, Phosphates, *Rubber, Phosphors, *Pipes, Rolling mills.

Contents:
Building caprolactam shops at the Kemerovo combine, by D. Kutovoi
Develop chemical industry in the Ukraine, by P. Borisov
A new urea-formaldehyde fertilizer, by M. Kapper
Production at the Samarkand superphosphate plant, by S. V. Razgulyaeva
Progress at the Rozdol mining-chemical combine
Supply difficulties at the Karbolit plant
Rubber reclaiming at the Chekhov rubber reclaiming plant
Develop chemical industry in Leningradskaya oblast
Chemical research facilities in Leningrad, by Z. Arkhipova
The Krasnyi Khimik plant in Leningrad, by V. Nevel'skii
A new method of hot rolling of pipes.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 57. 19 Mar 63 [38]p. JPRS: 18192.
Order from OTS $1.00 63-21352

Trans. of Promyshlennoe Stroitel'stvo (USSR) 1962 [v. 40] no. 11, p. 31-34; VDNKh SSSR. Informatsionnyi Byulleten' [sic] 1962, no. 12, p. 10-11; Promyshlennost' Armenii (USSR) 1962 [v. 5] no. 10, p. 55-56; and 7 selected articles from Nov 62 issues of 6 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Industrial plants, Construction, *Tires, *Natural gas, *Gasoline, Synthetic rubber, *Glass, Conveyors, *Plastics, Lactams, *Fertilizers, Nitrogen, Coke, Conferences.

Contents:
Experience in the reconstruction of chemical industry enterprises, by V. E. Khachikyan
Hundreds of thousands of new tires for the country
Development of new technological processes for the chemical conversion of natural gas and natural gasolines, by Kh. Grigoryan
Reconstruction of the Efremov synthetic rubber plant, by Ya. Chukseev
For greater production from the Maardu chemical combine, by Kh. Peremees
Glass pipe line, by A. Belokon'
Production of plastics at the Okhtinskii chemical combine
Gradual elimination of shortcomings at the Rustavi caprolactam plant, by G. Dzamanashvili and others
Exchange of know-how at meeting in Gorlovka nitrogen fertilizer plant, by I. Zakharov
Seminar of chemists and by-product coke chemists, by I. Goloperov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL MACHINE BUILDING NO. 17. 11 Mar 63 [23]p. JPRS: 18061.
Order from OTS $0.75 63-21297

Trans. from Ekonomicheskaya Gazeta (USSR) 1962, no. 43[64] p. 31; no. 44[65] p. 22, 28-29; no. 46[67] p. 4; no. 47[68]; Izvestiya (USSR) 1962, 29 Sep, p. 3; 5 Oct, p. 3; Rabochaya Gazeta (USSR) 1963, 27 Jan, p. 2.

DESCRIPTORS: *Industrial production, Chemical engineering, Machines, Filters (Fluid), Pumps, *Quality control, *Ceramic materials, Polymers.

Contents:
Forty-three filters short
Soviet machinery for sale
Why do we frustrate the plan, by L. Pryakhin

Improving the quality of machine construction, by I. Laktionov
Problems in quality control, by A. Bondarenko
Technical problems in the chemistry industry
Need for ceramic products, by V. Nesterenko
Polymers
Spare parts needed, by G. Subbotin.

Barth, W.
PRESSURE DROP IN PACKED TOWERS WITH AND WITHOUT LIQUID FLOW, tr. by Bertha P. Klenova. 28 Nov 51, 13p. 11 refs. TVA 3065.
Order from OTS or SLA $1.60 62-25797

Trans. of Chem[ie]-Ing[enieur]-Tech[nik] (West Germany) 1951, v. 23, p. 289-293.

DESCRIPTORS: *Towers, *Packing materials, *Pressure, Reduction, Fluid flow.

The equations derived for the pressure drop are of greatest general validity and can be applied not only to various sizes of all possible packing materials but also to the most varied mixtures of solid and loose packing. The conditions generally occurring in practice may be divided into two groups, towers in which rounded-off and sharp-edged packings are used and which have approximately the same friction factors. A sufficiently accurate calculation of the pressure drop is possible also for liquid flow. (Author)

Chekalyuk, E. B., Oganov, K. A. and others.
HEAT TREATMENT OF THE EXHAUSTED OIL STRATUM [pt. 1] (Teplovaya Obrabotka Istoshchennogo Neftyanogo Plasta). [1962] [16]p. (foreign text included).
Order from OTS or SLA $1.60 62-14582

Trans. of Neftyanoe Khozyaistvo (USSR) 1954, v. 32, no. 1, p. 33-38.

DESCRIPTORS: *Petroleum, Deposits, *Heat treatment, Heat of reaction, Mathematical analysis, Partial differential equations.

In the present article a mathematical analysis of the phenomena which occur in the process of thermal reaction in the stratum is given, and the conditions necessary for carrying out effective and profitable thermal treatment of the stratum on an industrial scale are determined. (Author)

Chekalyuk, E. B., Oganov, K. A. and others.
HEAT TREATMENT OF THE EXHAUSTED OIL STRATUM (CONCLUSION) (Teplovaya Obrabotka Istoshchennogo Neftyanogo Plasta). [1962] [19]p. (foreign text included) 1 ref.
Order from OTS or SLA $1.60 62-14595

Trans. of Neftyanoe Khozyaistvo (USSR) 1954, v. 32, no. 2, p. 33-38.

DESCRIPTORS: *Petroleum, Deposits, *Heat treatment, Economics

Until now, experiments conducted on heat treatment of the stratum have failed to give results of industrial interest, merely because the heat-injection process has always been carried out at a grossly inadequate rate, on much too small a scale, and often with unsuitable heat-injection agents. The use, as an injection agent of water at a temperature of 200° C or saturated steam at pressures greater than 80 atm. and a sufficient increase in the rate of pumping the heat-injection agent into the stratum assure successful solution of the problem of extracting the residual oil from the stratum. The suggested impulse heat-injection method of treatment of the stratum is economically feasible. (Author)

Dobychin, D. P.
DIFFUSION DE LA VAPEUR D'EAU ET CHEMINEMENT DE L'AIR DANS UN VERRE POREUX [Diffusion of Water Vapor and the Flow of Air in Porous Glass] tr. by B. de Trezvinsky. 24 Mar 62 [9]p. 9 refs. CEA Trans. no. R 1581 (text in French).
Order from OTS or SLA $1.10 62-25075

Trans. in French of #Zh[urnal] Prikl[adnoi] Khim[ii] (USSR) 1959, v. 32, no. 10, p. 2336-2339.

DESCRIPTORS: *Porous materials, *Glass, *Water vapor, Diffusion, *Gas flow, Sorption, Catalysis.

Engelhardt, F. and Schwarzhans, H.
PROCESS FOR THE PREPARATION OF KETONES. [1962] 3p.
Order from ATS $5.00 ATS-75P66G

Trans. of German patent 1,130,800, appl. filed 9 May 60, opened for inspection and pub. 7 June 62, pat. pub. 20 Dec 62.

DESCRIPTORS: *Ketones, Preparation.

Franck, H. H.
THE POLYMORPHISM OF ALKALINE EARTH CARBIDES. [1962] [9]p.
Order from SLA $1.10 62-20181

Trans. of mono. Congr[es de] Chim[ie] Ind[ustrielle] (no. 17) Paris, 1937. Compt[es] Rend[us] p. 1160-1165.

DESCRIPTORS: *Carbides, *Calcium compounds, *Cyanamides, Industrial production.

The transformation of calcium carbide into calcium cyanamide is subjected to rather marked variations. X-ray studies of carbides of various origins has revealed the existence of many phases; the conditions of origin and of transformation have been examined, particularly by the addition of adding various substances, (calcium cyanamide among others) thereto while hot. A theoretical interpretation of the observations is given. (Author)

Haddenhorst, Hans-Günter and Koch, Richard.
INVESTIGATION OF THE EFFECT OF PRESSURE AND TEMPERATURE ON PRECIPITATION OF SOLIDS IN PETROLEUM. [1962] 17p. 3 refs.
Order from SLA $1.60 62-20279

Trans. of [Erdöl und Kohle-Erdgas-Petrochemie] (West Germany) 1959, v. 12, p. 65-71.

DESCRIPTORS: *Petroleum, Solids, Precipitation, Temperature, Pressure, Phase studies, Hydrocarbons.

Khodakov, G. S.
ON A CASE MECHANOCHEMICAL DISINTEGRATION OF QUARTZ (Ob Odnom Sluchae Mekhanokhimicheskogo Dispergirovaniya Kvartsa) tr. by K. G. H. 11 Feb 63, 3p. 4 refs. I-8065.
Order from OTS $0.50 63-11577

Trans. of [#Kolloidnyi Zhurnal] (USSR) 1961, v. 24, no. 2, p. 236-237.

DESCRIPTORS: *Quartz, Mineral products, Machining, *Silicon compounds, *Dioxides, Production, Surface area, Particle size, Calcium compounds, Magnesium compounds, Oxides, Chemical reactions.

With combinations of grinding and chemical reaction, highly dispersed silica with a specific surface area exceeding 200 m^2/g, which is approximately 30 times more surface area than initialy ground quartz, is obtained. Such mechanochemical interaction causes dispersion of silica into separate particles, the size of which,for highly dispersed samples, did not exceed hundredths of a micron. The increase in the dispersion as a result of the grinding and subsequent reactions in combination with CaO or MgO in the water surroundings depends on the continuation of these processes. (Author)

Krokhin, S. I. and Cheremukhina, R. I.
INFLUENCE OF FLOTATION REAGENTS ON THE LINEAR ADSORPTION OF FLOTATION OILS OVER A THREE-PHASE WETTING PERIMETER (Vliyanie Regulyatorov Flotatsii na Lineinuyu Adsorptsiyu Maslyanikh Reagentov po Trekhfaznomu Perimetru Smachivaniya). [1962] [10]p. 5 refs. Warren Spring Lab. Trans. NT833; DSIR NLL M. 3342.
Order from OTS or SLA $1.10 62-23933

Trans. of Izv[estiya] Vysshikh Uchəb[nykh] Zaved[enii]. Tsvet[naya] Metall[urgiya] (USSR) 1959, v. 2, no. 4, p. 27-35.

DESCRIPTORS: *Minerals, Material separation, *Flotation, *Oils, Absorption, Chemical reagents, Surface-active substances.

Krokhin, S. I. and Cheremukhina, R. I.
THE MECHANISM OF THE ACTION OF KEROSENE IN THE FLOTATION PROCESS (O Mekhanizme Deistviya Kerosina pri Flotatsii). [1962] [17] p. 14 refs. Warren Spring Lab. Trans. NT835; DSIR NLL M. 3341.
Order from OTS or SLA $1.60 62-23932

Trans. of Izvestiya V[y.sshikh] U[chebnykh] Z[avedenii]. Tsvetnaya Metallurgiya (USSR) 1959 [v. 2] no. 1, p. 26-40.

DESCRIPTORS: *Minerals, Material separation, *Flotation, *Kerosene, Bubbles, Adhesion, Surface active substances.

Kurdov, I., Ilinov, P., and Antonov, L.
NOTES ON THE PRODUCTION OF DIRECT BLACK DYE. [1962] 5p.
Order from ATS $9.25 ATS-85P65B

Trans. of Mashinostroene (Bulgaria) 1956, v. 5, no. 8, p. 34-38.

DESCRIPTORS: *Dyes, Colors, Production.

Nikolaev, A. V., Sinitsyn, N. M., and Shubina, S.M.
REPRÉSENTATIONS ACCEPTEUR-DONNEUR APPLIQUÉES À L'EXTRACTION [Donor-Acceptor Concepts in Their Application to Extraction] tr. by Mme. Authier. 1 Feb 62 [12]p. 15 refs. CEA Trans. no. R 1479 (text in French).
Order from OTS or SLA $1.60 62-25094

Trans. in French of Zh[urnal] Strukt[urnoi] Khim[ii] (USSR) 1960, v. 1, no. 3, p. 319-323.

DESCRIPTORS: *Ores, *Material separation, Organic compounds, Molecular structure, Electrons.

Rodionova, K. F., Il'inskaya, V. V., and Nedel'shtein, I. V.
A COMPARATIVE STUDY OF THE PARAFFINIC-NAPHTHENIC HYDROCARBONS FROM OILS OF CRUDES AND DISPERSED BITUMINOUS SUBSTANCES. [1963] 7p.
Order from ATS $9.75 ATS-66P65R

Trans. of #Geol[ogiya] Nefti i Gaz (USSR) 1962, v. 6, no. 8, p. 52-56.

DESCRIPTORS: *Hydrocarbons, *Oils, *Petroleum, *Bitumens, Naphthenes.

Ryshavy, D.
OXIDATION OF HYDROCARBONS IN THE PRESENCE OF INHIBITORS (O Protsesse Okisleniya Uglevodorodov v Prisutstvii Ingibitora). Feb 62 [9]p. 3 refs. TIL/T. 5287; [DSIR NLL] M. 3677; AD-272 519.
Order from OTS or SLA $1.10 63-13241

Trans. of Vysokomol[ekulyarnye] Soedin[eniya] (USSR) 1961, v. 3, no. 3, p. 464-469.

DESCRIPTORS: *Hydrocarbons, Polymers, *Propenes, Oxidation, Inhibition, *Antioxidants, *Oxidation inhibitors, Phenyl radicals, Naphthyl radicals, Amines, Butenes, Methyl radicals, Butyl radicals, Phenols, *Reaction kinetics, Theory, Mathematical analysis, Differential equations, Great Britain.

Oxidation of isotactic polypropylene in the presence of an antioxidant was studied. Examination of the length of the inhibition period in relation to the concentration of phenyl-2-naphthylamine revealed the existence of a critical concentration of the antioxidant. For concentrations above the critical an equation was derived expressing the length of the inhibition period as a function of the initial antioxidant concentration. Ratios of the elementary growth and termination constants (6.0×10^{-4} to 7.6×10^{-4}) and the activation energy difference of these reactions were determined from the critical concentrations for temperatures between 160° and 180°. An increase in antioxidant concentration to over 0.5% results in a shortening of the inhibition period. (Author)

Saotome, K.
SYNTHESIS OF ε-CAPROLACTAM FROM 1,1,1,5-TETRACHLOROPENTANE [1963] 6p.
Order from ATS $10.50 ATS-85Q66J

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 7, p. 1059-1961.

DESCRIPTORS: *Lactams, Synthesis, Chlorides, Pentanes.

Stremovskii, L. I.
THE RECOVERY OF PHOSPHATE FROM OBOLUS SANDSTONES BY FLOTATION. [1962] 12p. 8 refs. Warren Spring Lab. Trans. NT774; DSIR NLL M. 4889.
Order from OTS or SLA $1.60 62-25388

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1958 [no. 8] p. 476-481.

DESCRIPTORS: *Ores (Non-metallic), *Phosphates, *Phosphorites, Material removal, *Flotation, Rolling mills, *Sandstone, Processing.

Takahashi, T.
CHLORINATION OF COMPONENTS IN ALUMINA MINERALS. [1963] 9p.
Order from ATS $10.00 ATS-11Q67J

Trans. of Kogyo Kagaku Zasshi (Japan) 1954, v. 57, no. 5, p. 339-341.

DESCRIPTORS: *Aluminum compounds, *Oxides, *Minerals, *Chlorination.

Topchiev, A. V., Lavrovskii, K. P. and others.
RESEARCH IN THE RADIATION CHEMISTRY OF PETROLEUM HYDROCARBONS AND THE USE OF NUCLEAR RADIATION IN THE PETROLEUM-REFINING INDUSTRY AND PETROCHEMICAL SYNTHESIS. 15 Nov 62 [19]p. 12 refs. FTD-TT-62-1047.
Order from OTS or SLA $1.60 63-15285

Unedited rough draft trans. of mono. Pererabotka Nefti i Gaza: Neftekhimiya (International Petroleum Congress (no. 5) New York, 1959. Doklady, v. 3) Moscow, 1961, p. 345-354.

DESCRIPTORS: *Radiochemistry, *Petroleum industry, Hydrocarbons, *Radiolysis, Radiation effects, Thermal radiation, Stability.

Includes discussions on the radiolysis of alkanes and on radiation and thermal stability of aromatic hydrocarbons.

Ufford, J. J. Quarles van and Vlugter, J. C.
SULFUR AND BITUMEN I. [1962] 18p. (foreign text included) 10 refs.
Order from SLA $1.60 63-10011

Trans. of Brennstoff-Chemie (West Germany) 1962, v. 43, no. 6, p. 31-34.

DESCRIPTORS: *Bitumens, *Sulfur, Sulfur compounds, Mixtures, Mechanical properties, Chemical reactions

Vol'fkovich, S. I., Margolis, F. G., and Kravtsov, A. I.
CATALYSIS IN PREPARATION OF POTASSIUM AND SODIUM SULFATES FROM THEIR CHLORIDES BY DECOMPOSITION WITH SULFUR DIOXIDE IN THE PRESENCE OF OXYGEN [AND] GEOLOGIC CONDITIONS OF GAS ACCUMULATION IN THE COAL FIELDS OF KUZBASS. [1962] 2p.
Order from OTS or SLA $1.10 62-16769

Abstract trans. of Akademiya Nauk SSSR. Comptes Rendus (Doklady) de l'Academie des Sciences de l'U. R. S. S., 1943, v. 41, no. 1, p. 23-25 and 28-31.

DESCRIPTORS: Potassium compounds, Sodium compounds, Sulfates, Synthesis, Pyrites, Catalysts, *Catalysis, Chlorides, Sulfur compounds, Dioxides, Oxygen, Chemical reactions, Coal mines, *Natural gas, Geology, *Abstracts

Weiss, K.
PREPARATION OF HIGHLY SENSITIVE CALCIUM SULFIDE LAYERS. [1962] 3p.
Order from ATS $5.00 ATS-62P66G

Trans. of German patent 837, 424, pat. from 30 Sep 50, appl. opened for inspection 9 Aug 51, granted 20 Mar 52.

DESCRIPTORS: *Calcium compounds, *Sulfides, Preparation.

Yokoyama, Tatsuo.
ON THE CHANGE OF THE ESCAPE OF CHLORINE AFTER THE DISAPPEARANCE OF FREE HYDROCHLORIC ACID IN THE CHLORATE CELL. Pt. 2 of Studies on the Escape of Chlorine in the Sodium Chlorate Cell. [1962] 9p. 2 refs.
Order from SLA $1.10 62-18322

Trans. of Denki Kagaku (Japan) [1961] v. 29, p. 697-701.

DESCRIPTORS: Electrolytic cells, Chlorates, *Hydrochloric acid, *Chlorine, Sodium compounds, Electrolysis.

The escape of chlorine is determined by the entire amount of gas evolved from the bath and the pressures of Cl_2 and HClO. During electrolysis, the Cl_2 pressure sometimes varies quite widely but the percentage of variation of the total amount of gas evolved is small. Depending on the amount of hydrochloric acid and the time at which it was added, the C_{ClO^-} decreases for a time after addition (also, the C_{Cl^-} sometimes increases). Therefore, P_{Cl_2} increases with time and sometimes chlorine escape increases (the opposite can also occur).

Yutkin, L. A. and Gol'tsova, L. I.
METHOD OF CONCENTRATING ORE AND OTHER MATERIALS AND AN INSTALLATION FOR ITS ACCOMPLISHMENT. 30 Oct 62 [5]p. FTD-TT-62-1294.
Order from OTS or SLA $1.10 63-13920

Unedited rough draft trans. of [Soviet] patent 113549, appl. no. 9949/575050/lh. 6, 25 May 55.

DESCRIPTORS: *Ores (Metal sources), Particles, Electrical conductance, Separation, Electrochemistry.

A method of concentrating ore and other materials, containing current-conducting impurities, is distinguished by the fact that, the ore is subjected to the action of high-voltage discharges in a liquid medium, creating electro-hydraulic shocks, destroying the metal portion of the starting material.

Civil Engineering

USSR INDUSTRIAL DEVELOPMENT: SOVIET CONSTRUCTION MACHINERY NO. 28. 20 Mar 63 [26]p. JPRS: 18243.
Order from OTS $0.75 63-21369

Trans. (some partial) of Stroitel'nye i Dorozhnye Mashiny (USSR) 1963 [v. 8] no. 1, p. 1-3, 7-13, 17, 19-20, 27-28.

DESCRIPTORS: *Industrial production, *Civil engineering, *Construction materials industry, Management engineering, *Hoists, Mobile, Reinforced concrete, Construction, Excavators, Road building equipment, Earth-handling equipment.

Contents:
Centralization of engineering management in construction and road machinery building
The KB-40 tower crane, by Ya. E. Sigal
Pneumatic tire crane, by Ch. P. Meshik
K-63 truck-mounted crane, by V. G. Myshkin
Reinforced concrete frame for EM-201 stripping excavator, by V. A. Rumyantsev
PPU-20 movable lift, by E. S. Dol'nik and A. S. Zarkh
Complex sorting mechanisms on the PKB-02-04 stone cutting unit, by I. R. Sitnitskii
New machines.

Dodin, V. Z.
TEMPORARY UNDERGROUND COMMUNICATIONS IN PERMAFROST SOILS. [1961] 8p.
Order from RIS $19.00 RIS E-750

Trans. of Promyshlennoe Stroitel['stvo] (USSR) n. d., n. v., p. 40-43.

DESCRIPTORS: *Arctic regions, *Permafrost, Soils, Communication systems, *Water supplies, Transportation, *Pipelines, Construction.

Guyon, Y.
NOTE ON THE ULTIMATE-LOAD DESIGN OF STATICALLY INDETERMINATE STRUCTURES. [1961] 14p. 3 refs.
Order from SLA $1.60 61-10792

Trans. from [Comité Européen du Béton, Paris. Bulletin d'Information] (France) 1960, no. 21, Jan.

DESCRIPTORS: *Concrete, *Reinforced concrete, Structures, Loading (Mechanics), Statics.

Macchi, G.
PROPOSED METHOD OF ANALYSIS BASED ON THE THEORY OF IMPOSED ROTATIONS. [1961] [25]p. 5 refs.
Order from SLA $2.60 61-10791

Trans. from [Comité Européen du Béton, Paris. Bulletin d'Information] (France) 1960, no. 21, Jan.

DESCRIPTORS: *Concrete, *Reinforced concrete, Structures, Beams, Rotation, Moments, Statics, Creep.

Neumann, H.
DAMPING OF STEP SOUND, HEAT INSULATION AND FIRE RESISTANCE OF ASPHALT FLOOR COVERINGS IN THE BUILDING INDUSTRY (Zur Frage der Trittschalldämmung, der Wärmedämmung und des Feuerschutzes bei Asphalt-Fussbodenbelägen im Hochbau). [1962] [14]p.
Order from SLA $1.60 62-18689

Trans. of Bitumen (West Germany) 1953, v. 15, no. 5, p. 105-109.

DESCRIPTORS: *Floor coverings, *Asphalt, Thermal insulation, Sound, Damping, Construction materials industry.

Rüsch, H. and Aas-Jakobsen.
ECCENTRIC COMPRESSION [AND] CONSIDERATION OF COMPRESSION REINFORCEMENT. Rept. of Committee no. 3 with appendix. [1962] [23]p.
Order from SLA $2.60 61-10141

Trans. of [Comité Européen du Béton, Paris. Bulletin d'Information] (France) n. d., no. 15.

DESCRIPTORS: *Concrete, *Reinforced concrete, Structural properties, Compressive properties, Stresses, Loading (Mechanics).

Electrical and Electronic Engineering

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 106 (ELECTRONICS, ENGINEERING AND SPACE RESEARCH SERIES). 18 Mar 63 [32]p. JPRS: 18164.
Order from OTS $1.00 63-21336

Consists of abstracts of articles from the scientific and technical journals of Hungary.

DESCRIPTORS: *Abstracts, Literature, Hungary, *Electronics, *Engineering, Electronic equipment, Communication systems, Mechanics, Precision finishing, Optical equipment, Automation

APPARATUS FOR THE MAINTENANCE OF SYNCHRONISM BETWEEN TWO ROTATING MEMBERS EMPLOYING A DIFFERENTIAL DEVICE WHICH IS INFLUENCED BY TWO PORTIONS OF A SYNCHRONIZING CURRENT IMPULSE. 15 Jan 51, 9p. (figs. omitted).
Order from OTS or SLA $1.10 62-18462

Trans. of German patent 508,895, 2 Oct 30, cl. 21a, gr. 13, pub. 18 Sep 30, pat. from 6 June 28.

DESCRIPTORS: *Telegraph equipment, *Synchronization (Electronics), Amplifiers, Detectors, Coils.

MANUFACTURING PROCESS OF ELECTRIC CONDENSERS. 14 Sep 63, 12p. (figs. omitted).
Order from OTS or SLA $1.60 62-18547

Trans. of French patent 903,040, gr. 12, cl. 6, appl. 27 Mar 44, released 5 Jan 45, pub. 21 Sep 45, by Robert Bosch, Ltd., Germany (appl. protected in Germany 18 Feb 43).

DESCRIPTORS: *Capacitors, Electrical equipment, Production, *Dielectrics, Coatings.

SIEMENS JOURNAL, 1958 [VOL. 32] NO. 10: [SELECTED ARTICLES]. [1962] [19]p. (figs. omitted) 6 refs. H-3238.
Order from OTS or SLA $1.60 62-25201

Trans. of Siemens Zeitschrift (West Germany) 1958 [v. 32] no. 10, p. 692-701, 719-725, 732-735.

DESCRIPTORS: Industrial equipment, *Television communication systems, *Transistor amplifiers, Amplifiers, *Telephone equipment, Automatic, Communication systems, Telephone communication systems, Germany.

Contents:
Television in the service of industry, research and other phases of national economy, by H. Leidholdt
Transistor amplifier in telephone messages for the district and long distance traffic, by W. Auer
Automatic dial system between Luxemburg and Germany, by F. Schalkhauser.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 32. 11 Jan 63 [34]p. JPRS: 17094.
Order from OTS or SLA $3.60 63-15103

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 10, p. 76; Promyshlennoe Stroitel'stvo i Inzhenernye Sooruzheniya (USSR) 1962 [v. 4] no. 5[18] p. 28-32; Novye Tovary (USSR) 1962, no. 10, p. 7; Svetotekhnika (USSR) 1962 [v. 8] no. 11, p. 3-9 and 28-30; and from Rabochaya Gazeta (USSR) 1962, 1 Nov, p. 4.

DESCRIPTORS: *Industrial production, Electrical industry, *Electrical equipment, *Hydroelectric power systems, Generators, Underwater, *Electrical engineering, Buildings, Construction, Ventilation, *Lighting systems, *Lighting equipment, *Polymers, Plastics, Processing.
Contents:
Hydroelectric-power generator submerged under water, by Vasilii Snytkin
Recent developments in the electrical-engineering and instrument making industries of the Moscow oblast Sovnarkhoz, by I. V. Gellert
An economical solution to the construction of magnetic-station buildings, by I. Parinov
A new kitchen ventilator
A universal electric iron, by L. Korenblat
On the role and tasks of the All-Union Lighting Engineering Institute, by T. K. Glazunov and S. G. Yurov
Newly developed electric lighting fixtures, by E. S. Rozental'
Coordination meeting on the use of polymers in lighting-engineering, by V. A. Pirazeva.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 35. 18 Mar 63 [27]p. JPRS: 18167.
Order from OTS $0.75 63-21339

Trans. of Vestnik Elektropromyshlennosti (USSR) 1963 [v. 34] no. 1, p. 1-5 and 36-38.

DESCRIPTORS: *Electrical equipment, Industrial production, Management engineering, *Electrical industry, Industry, Awards

Contents:
Centralization of technical policy management in electrical industry
Tasks of low-voltage apparatus construction, by N. A. Dodogorskii
Awards to the participants of the exhibition of achievements of the national economy of the USSR, by M. A. Borisov and V. I. Smorgonskii

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 36. 19 Mar 63 [20]p. JPRS: 18193.
Order from OTS $0.50 63-21353

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 9, p. 18-19, 29-30, 47-48; and from Sovetskaya Estoniya (USSR) 1962, 15 Sep; Rabochaya Gazeta (USSR) 1962, 1 Dec, p. 1; Komsomol'skaya Pravda (USSR) 1962, 25 Sep, p. 1.

DESCRIPTORS: *Industrial production, *Electrical equipment, *Saws, Hydraulic systems, Management engineering, *Arc welding, Machines, Circuit breakers, Labor.
Contents:
GP-1 hydraulic saw, by M. K. Ivanov
Shortcomings in plant of mercury rectifiers imeni M. I. Kalinin, by V. Konstantinov
An example of rudeness and inefficiency at the elektroarmatura plant, by F. Mazur
Reprehensible labor organization and waste at Kuzbasselektromotor plant, by Yu. Kotlyarov
ADGTs-500 automatic machine for arc welding in a protective gas medium
Rapid-action 3000-Amp, 4000-volt D. C. circuit-breaker, by V. T. Omel'chenko and others.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 37. 20 Mar 63 [18]p. JPRS: 18236.
Order from OTS $0.50 63-21368

Trans. from Izvestiya (USSR) 1962, 7 Nov, p. 6; no. 285, 1 Dec, p. 3; Ekonomicheskaya Gazeta (USSR) 1962, no. 46[67] p. 37; no. 48 [69] p. 39, and selected small items from Nov 62 issues.

DESCRIPTORS: *Industrial production, *Electrical equipment, Turbines, Generators, Electric power production, Industrial plants, Design

Contents:
New turbogenerator developed at Novosibirsk turbogenerator plant
News of "elektrosila" firm, by B. Gusev
Change of supplier disadvantageous for the "elektrokabel" plant in Kol'chugino, by M. Yablokov and I. Prozument
Waste through non-coordination in designing at the "El'fa" plant in Vil'nyus, by E. Vaitsekhovich
Announcements of sales of electrical products.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 58. 8 Mar 63 [26]p. JPRS: 18029.
Order from OTS $0.75 63-21281

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) [1962] no. 9, p. 46-47; and from Sel'skaya Zhizn' (USSR) 1963, 20 Jan; Trud, Moscow (USSR) 1962, 30 Nov, p. 1; Promyshlennost' Armenii (USSR) 1962 [v. 5] no. 11; Pravda, Leningrad (USSR) 1962, 25 Sep, p. 4; Sovetskaya Latviya (USSR) 1962, 25 Sep; Vechernaya Moskva (USSR) 1962, 15 Sep, p. 2; 24 Dec, p. 2.

DESCRIPTORS: *Precision equipment, Industrial production, *Clocks, Electrical equipment, Metal plates, Counting methods, *Air conditioning equipment, *Semiconductor devices, *Power supplies, Conveyors, Education, Industry, Automation.
Contents:
The Serdobsk clocks, by V. Basov
Instrument for the determination of the number of plates in collectors of electrical machines, by D. G. Mogil'nyi and others
Failure to support production of air conditioners at the Khar'kov plant, by V. Rodionov
Universal power supply in semiconductor instruments
Conveyer of precision at the Gosmetr plant
Announcement of the Riga Polytechnic Institute
Higher education and the problem of irons (report on the Krasnyi Oktyabr' plant) by N. Afanas'ev and other
Utilization of fixed assets at the Tizpribor plant, by P. P. Benediktov.

Barthelt, Hans and Böhme, Werner.
NON-DESTRUCTIVE TESTING OF ARMORED ENDS OF LONG INSULATORS BY THE ULTRASONIC ECHO PROCEDURE, July 62 [6]p. 1 ref.
Order from SLA $1.10 62-18874

Trans. of reprint of Siemens Zeitschrift (West Germany) 1955, v. 29, no. 5/6, p. 206-208.

DESCRIPTORS: *Non-destructive testing, *Electric insulation, *Ultrasonic radiation, Ceramic materials.

Blechschmidt, E.
PRECISION MEASURING BRIDGE FOR DETERMINATION OF TIME CONSTANTS OF PRECISION RHEOSTATS. [1962] 10p. (refs. figs. tables omitted).
Order from SLA $1.10. 62-16932

Trans. of [Deutsche] Elektrotechnik (Germany) 1952, v. 6, no. 5, p. 199-202.

DESRIPTIONS: Precision equipment, *Variable resisto Time, Standards, *Electric bridges, Measuring devices (Electrical and Electronic)

Glenn, William Ellis Jr.
METHOD AND APPARATUS FOR ELECTRONIC RECORDING. [1962] 22p.
Order from OTS or SLA $2.60 62-14682

Trans. of French patent 1,214,398, Internat. cl. H 04 n, appl. 21 Nov 58, granted 9 Nov 59, pub. 8 Apr 60 by Compagnie Française Thompson-Houston (appl. filed in U.S.A. 22 Nov 57).
An expanded version including figures is available from OTS or SLA as 62-16393, $2.60, 24p.

DESCRIPTORS: *Electronic recording systems, Signals, Recording systems, Design, Video signals.

A device for recording an electric signal in the form of small depressions in a film is described. The device is characterized by the fact that the latter comprises a thermoplastic coating, with means provided for melting the surface of this coating. Means are also provided which are sensitive to the electric signal to be recorded for refracting a beam of electrons falling on said surface, so as to control the number of electrons striking a point of the latter in function of said signal. The depressions thus produced have characteristics which are determined by this number of electrons. (Author)

Kessenich, V. N.
REFLECTION OF ELECTROMAGNETIC WAVES FROM A LUMP CHARGE IN A SINGLE WIRE (Otrazhenie Elektromagnitnykh Voln ot Sredotochnoi Nagruzki v Odinochnom Probode) tr, by Sister Marie-Margarita. 25 Nov 61 [12]p. 12 refs. E-T-R-61-3.
Order from OTS or SLA $1.60 62-25105

Trans. of #Izvestiya Vysshikh Uchebnykh Zavedenii. Radiotekhnika (USSR) 1961, v. 4, no. 3, p. 280-284.

DESCRIPTORS: *Electric wire, *Electromagnetic waves, *Wave transmission, Reflection, Electrical conductance, Circuits.

A formula is found for cases dealing with the theory of conductors circuits and long lines allowing the representation of a second field, appearing where the lump charge is switched on. (Author)

Klyumel, M. Z.
INVESTIGATION OF THE PHASE STABILITY OF FREQUENCY MULTIPLIERS. [1962] [5]p. 2 refs.
Order from OTS or SLA $1.10 62-14484

Trans. of Pribory i Tekhnika Eksperimenta (USSR) 1957, no. 1, p. 97-98.

DESCRIPTORS: *Frequency multipliers, *Phase measurement, Frequency shift, Stability.

A method is proposed for investigating experimentally the phase stability of frequency multipliers. This technique makes it possible to detect and measure the widening of spectrum lines resulting from fast random variations in multipliers and determine systematic phase losses resulting from slow variations of circuit parameters. Relative frequency shift of $\pm 10^{-11}$ to $\pm 5 \times 10^{-13}$ due to a slow variation of circuit parameters was measured in preliminary experiments. (Author)

Kornienko, A. M.
ELIMINATION OF VIBRATION IN A LANG TURBO-SET (Ustranenie Vibratsii Turboagregata Firmy Lang) tr. by D. R. H. Phillips. 13 Apr 61 [9]p. (foreign text included). Trafford Park trans. no. 2980; NLL M. 3329.
Order from OTS or SLA $1.10 62-24657

Trans of Elekt[richeskie] Stantsii (USSR) 1961 [v. 32] no. 2, p. 72-74.

DESCRIPTORS: *Steam turbines, *Generators, Vibration, Operation, Maintenance, *Power equipment.

During a major overhaul, carried out by the Khar'kov Power Engineering Repair Organization, the causes of vibration in a turbo-set were completely eliminated. The turbo-set has operated perfectly for one year with low vibration figures. The gear transmission to the oil pump, as it wears, has an effect on the increase in vibration in the front bearing of the turbine. The control and oil-supply system of the bearings must be converted to hydro-dynamic control. (Author)

Lunts, A. G.
SYNTHESIS AND ANALYSIS OF RELAY-SWITCHING CIRCUITS USING CHARACTERISTIC FUNCTIONS. [1961] 6p. 4 refs. MDF L-116.
Order from OTS or SLA $1.10 62-23042

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1950, v. 75, no. 2, p. 201-203.

DESCRIPTORS: *Electric relays, Relays, *Switching circuits, *Electrical networks, Electric terminals, *Circuits, Synthesis, Mathematical analysis, *Matrix algebra, Functions.

Meinke, H.
CYLINDER SYMMETRICAL BROADBAND OMNI-DIRECTION ANTENNA FOR HIGH BANDPASS MATCHING (Zylindersymmetrische Breitband-Rundstrahler mit Hochpass Anpassung) tr. by H. H. [1962] [16]p. (figs. omitted) H-7749.
Order from OTS or SLA $1.60 62-25233

Trans. of [NTZ] Nachrichtentechnische Zeitschrift (West Germany) 1960 [v. 13] no. 4, p. 161-168.

DESCRIPTORS: Broadband, *Omnidirectional antennas, Antennas, Design, High-pass filters, Band-pass filters, Tuned circuits, Frequency, Resistance (Electrical).

Nagai, K., Sato, R., and Iwasaki, S.
ON LINEAR DISTORTION OF MAGNETIC RECORDING. [1962] 14p. (figs. omitted).
Order from SLA $1.60 62-14085

Trans. of [Denki Gakkai Zasshi] (Japan) 1953, v. 73, p. 717-721.

DESCRIPTORS: *Magnetic recording systems, *Distortion, Wave transmission, Amplitude modulation, Frequency modulation, Modulation.

Nikolaev, L. V.
JUNCTION OF QUARTZ WITH METAL. 5 Mar 63 [8]p. 4 refs. JPRS: 17936.
Order from OTS $0.50 63-21242

Trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1962 [v. 7] no. 5, p. 174-176.

DESCRIPTORS: *Waveguide windows, Seals (Stoppers), *Welds, Metals, *Quartz, *Bonding.

The author demonstrates the possibility of obtaining a stressed junction of quartz with metal for manufacturing waveguide windows for ultrahigh frequency devices. Welds of such a type are vacuum-sealed and have high thermomechanical strength. (Author)

Novak, M.
MAXIMALLY FLAT ATTENUATION RESPONSE FILTERS. [1963] 15p.
Order from ATS $11.00 ATS-71P66C

Trans. of Slaboproudy Obzor (Czechoslovakia) 1962, v. 23, no. 3, p. 155-163.

DESCRIPTORS: *Attenuation, Filters (Electromagnetic).

Palatov, Konstantin.
RADIOELECTRONICS: THE NERVOUS SYSTEM OF A SPACESHIP. 16 Oct 62 [6]p. FTD-TT-62-1425.
Order from OTS or SLA $1.10 63-13694

Unedited rough draft trans. from Kommunist [Erevan] (USSR) 1962, no. 205, 31 Aug, p. 4.

DESCRIPTORS: *Spacecraft, *Radio equipment, *Electronic equipment, *Space communication systems.

Pervozvanskii, A. A.
APPROXIMATION METHOD FOR THE INVESTIGATION OF AUTO-OSCILLATING SYSTEMS IN PRESENCE OF RANDOM ACTIONS NOISES. Aug 60 [19]p. 10 refs.
Order from OTS or SLA $1.60 62-18954

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya. 1958, no. 3, p. 14-24.

DESCRIPTORS: *Oscillators, Automatic, *Oscillation, Nonlinear systems, Linear systems, Control systems, Radio relay systems, Radio interference, Harmonic analysis, Numerical methods and procedures.

Povarov, G. N.
MATRIX METHODS OF ANALYZING RELAY-CONTACT CIRCUITS IN TERMS OF THE INOPERATIVE CONDITION. [1961] 6p. 6 refs. MDF P-129.
Order from OTS or SLA $1.10 62-23192

Trans. of Avto[matika] i Tele[mekhanika] (USSR) 1954, v. 15, no. 4, p. 332-335.

DESCRIPTORS: *Electrical networks, Relays, Electric terminals, *Electric relays, *Circuits, Mathematical analysis, *Matrix algebra, Algebras, Switching circuits.

Rapoport, G. N.
MEASUREMENT OF THE ELECTRIC FIELD INTENSITY IN CAVITY RESONATORS BY THE METHOD OF DISPLACING THE RESONANT FREQUENCY BY A DIELECTRIC PROBE. [1961] 9p. 5 refs. MDF R 116.
Order from OTS or SLA $1.10 62-23084

Trans. of #Radiotekh[nika] (USSR) 1957, v. 12, no. 2, p. 51-58.

DESCRIPTORS: *Cavity resonators, *Electric fields, Intensity, Measurement, Deformation, Resonance, Frequency, *Dielectrics, *Probes (Electromagnetic).

A derivation is given of the theorem on the shift of the resonant frequency of a cavity resonator under a deformation of the interface between the various dielectrics in the resonator cavity. This theorem is the basis of the method of measuring the relative electric field intensity by means of the shift in the resonant frequency of the cavity resonator upon introducing a small testing body (a probe) of dielectric therein. The well-known method of the conducting probe requires additional measurements for a separate determination of the electric and magnetic field intensities. The dielectric probe is free of this inadequacy since it only reacts with the electric field. (Author)

Rassmann, G.
TRENDS IN THE DEVELOPMENT OF ELECTRICAL SHEET. Feb 63.
Order from BISI £ 4 5s BISI-3037

Trans. of Elektrie (Germany) 1961 [v. 15] no. 6, p. 176-181.

DESCRIPTORS: Electrical equipment, *Transformers, *Sheets, Material forming, Annealing.

Rozov, V. M.
ON EXCURSIONS AFTER A QUADRATIC DETECTOR [O Vybrosakh Posle Kvadratichnogo Detektora]. [1961] 6p. 3 refs. MDF R-105.
Order from OTS $0.50 62-11622

Trans. of Zh[urnal] Tekh[nicheskoi] Fiz[iki] (USSR) 1952, v. 22, no. 7, p. 1195-1200.

DESCRIPTORS: Electrical networks, Electric terminals, *Noise analyzers, Voltage, Probability, Statistical functions, Series.

Ryabov, M. S.
EFFICIENCY OF USE OF HIGH-FREQUENCY FLUORESCENT LIGHTING (Effektivnost' Primeneniya Vysokochastotnogo Lyuminestsentnogo Osveshcheniya) tr. by G. L. Cairns. Sep 61 [8]p. DSIR Library Communication no. 1098; NLL M 8809.
Order from OTS or SLA $1.10 62-32796

Abridged trans. of Svetotekhnika (USSR) 1961, v. 7, no. 2, p. 1-9.

DESCRIPTORS: *Lighting equipment, Fluorescence, High frequency.

Schulz, O.
PRACTICAL APPLICATIONS OF THE TRANSISTOR (Praktische Anwendungen des Transistors). [1962] 9p. (foreign text included).
Order from SLA $1.10 62-18613

Trans. of Funk-Technik (Germany) 1951, v. 6, no. 24, p. 668-670.

DESCRIPTORS: *Transistors, Electron tubes, Diodes (Semiconductors), Electronic equipment

Shestakov, V. I.
ALGEBRAIC METHOD OF DESIGNING SEQUENTIAL RELAY SYSTEMS. [1961] 6p. 4 refs. MDF S-106.
Order from OTS or SLA $1.10 62-23209

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1954, v. 99, no. 6, p. 987-990.

DESCRIPTORS: *Electric relays, Relays, *Circuits, *Sequences, Sequence switches, Synthesis, Numbers, Vector analysis, *Algebras, Algorithms, Switching circuits.

Simon, J. C. and Biggi, V.
NEW TYPE OF AERIAL AND ITS APPLICATION FOR LONG-DISTANCE TELEVISION TRANSMISSION (Un Nouveau Type d'Aérien et son Application à la Transmission de Television à Grande Distance). [1962] 33p. 7 refs.
Order from OTS or SLA $3.60 63-10743

Trans. of l'Onde Électrique (France) 1954, v. 34 [no. 332] p. 883-896.
Another trans. is available from OTS or SLA $3.60 as 60-21448, NRL Trans-796, 1960, 37p.

DESCRIPTORS: *Television antennas, *Television transmitters, Antennas.

For abstract see Technical Translations 6:111, 1961

Stolyarova, E. L., Suchkova, G. M., and Nesterova, L. S.
EFFECT OF TEMPERATURE OF MEDIUM ON AMPLIFICATION FACTOR OF PHOTOELECTRONIC MULTIPLIER. 29 Nov 62 [8]p. 8 refs. FTD-TT-62-1515.
Order from OTS or SLA $1.10 63-15289

Unedited rough draft trans. of Inzhenerno-Fizicheskii Institut. [Sbornik Nauchnykh Rabot] (USSR) 1960, no. 2, p. 137-143.

DESCRIPTORS: *Photomultipliers, Heat resistant materials, *Semiconductors, Antimony, Cesium, Magnesium alloys, Aluminum alloys, *Secondary emission, Amplifiers, Temperature.

Experiments revealed a distinctly expressed dependence of signal amplitude and half-width of amplitude distribution on the output of photoelectronic multipliers on temperature, for all types of Soviet multipliers examined by authors. The effect of temperature influence on the operating mode of photoelectronic multipliers is determined mainly by the changing coefficient of secondary

emission with temperature. In view of the fact that individual photoelectronic multipliers are sufficiently temperature-resistant, it is possible in principle to develop the technology of temperature-resistant photomultipliers. (Author)

Troitskii, V. S.
FLUCTUATIONS IN LOADED LINES [Flyuktuatsii v Nagruzhennoi Linii]. [1961] 14p. 3 refs. MDF T 119.
Order from OTS or SLA $1.60 62-23006

Trans. of Zh[urnal] Tekh[nicheskoi] Fiz[iki] (USSR) 1955, v. 25, no. 8, p. 1426-1435.

DESCRIPTORS: *Electrical networks, *Electric terminals, Transmission lines, Noise (Radio), Radio interference, Measurement, *Noise analyzers.

An analysis is made in this paper of the conditions for measuring weak noises when the meter input is very noisy; the sources of error are indicated and certain methods of eliminating them are analyzed.

Troitskii, V. A.
VARIATIONAL PROBLEMS ON THE OPTIMIZATION OF CONTROL PROCESSES IN SYSTEMS WITH BOUNDED COORDINATES [Variatsionnye Zadachi Optimizatsii Protsessov Upravleniya v Sistemakh s Organichennymi Koordinatami]. Aug 62 [21]p. 15 refs.
Order from OTS or SLA $2.60 62-18958

Trans. of #Prikladnaya Matematika i Mekhanika (USSR) 1962, v. 26, no. 3, p. 431-443.
Another trans. is available from OTS or SLA $2.60 as 62-32549, JPRS-14919, 22 Aug 62 [29]p.

DESCRIPTORS: *Control systems, Synthesis, *Calculus of variations.

For abstract see Technical Translations 8: 1141, 1962.

Ulanov, G. M.
INVARIANCE TO ξ IN LINEAR COMBINATION AUTOMATIC REGULATION SYSTEMS. [1961] 6p. 14 refs. MDF U-101.
Order from OTS $0.50 62-11636

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 112, no. 2, p. 253-256.

DESCRIPTORS: *Control systems, Automatic, Linear systems, Numerical analysis, Perturbation theory.

Vysokovskii, D. M.
INFLUENCE OF THE DISTANCE BETWEEN THE OSCILLATORS ON THE RESONANT AND DIRECTIVE PROPERTIES OF OSCILLATORS OF THE 'WAVEGUIDE' TYPE. [1961] 7p. 4 refs. MDF V120.
Order from OTS $0.50 62-11637

Trans. of Radiotekhnika (USSR) 1956, v. 11, no. 5, p. 21-25.

DESCRIPTORS: *Oscillators, *Waveguides, *Resonators, Microwave amplifiers, Antennas.

A computation is made of the current amplitudes and phases in systems of oscillators of the 'waveguide' type for $0.1 - 0.4\lambda$ distances between the oscillators. Conclusions are made on the resonant properties and the directivity of the oscillator system depending on the distance between them and also on the selection of the distance depending on the number of oscillators. The characteristic peculiarities are analyzed to two possible tuning regions of an oscillator system of the 'waveguide" type. (Author)

Ordnance, Missiles, and Satellite Vehicles

Dremin, A. N., Pokhil, P. F., and Arifov, M. I.
EFFECTS OF ALUMINIUM ON THE CONSTANTS OF DETONATION OF TROTYL (Vliyanie Alyuminiya na Parametry Detonatsii Trotila). July 61 [5]p. 8 refs. TIL/T. 5178; [DSIR] NLL M. 3451.
Order from OTS or SLA $1.10 62-25349

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1960, v. 131, no. 5, p. 1140-1142.

DESCRIPTORS: *Explosives, Additives, *Aluminum, Quartz, Tungsten, *Detonation waves, Velocity.

Measurements were made of the constants governing the detonation wave of trotyl in the Chapman-Zhuge zone, with the addition of aluminium and other substances of varying degree of dispersion. Also, for comparsion, the values are given for the constants governing the detonation wave of pure trotyl at the densities which it possesses when charged with aluminium, quartz sand (SiO_2) and tungsten. (Author)

Ilyukhin, B. S., Pokhil, P. F. and others.
MEASUREMENT OF THE SHOCK ADIABATIC CURVES FOR CAST TNT, CRYSTALLINE RDX AND NITROMETHANE (Izmerenie Udarnykh Adiabat Litogo Trotila Kristallischeskogo Geksogena i Nitrometana). Apr 61 [5]p. 6 refs. T. I. L. /T. 5186; [DSIR] NLL M. 3457.
Order from OTS or SLA $1.10 62-25351

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1960, v. 131, no. 4, p. 793-796.

DESCRIPTORS: *Explosives, *TNT, *RDX, *Methanes, *Nitro radicals, Compressive properties, *Shock waves, Measurement.

Kucherov, I.
RADIO CONTROLLED ROCKETS. [1962] [13]p.
F-TS-8760/V; AD-127 365.
Order from OTS or SLA $1.60 63-13242

Trans. of Radio [Moscow] (USSR) 1955, no. 8, p. 50-53.

DESCRIPTORS: *Rockets, *Control systems, *Radio equipment, Radio navigation, Remote control systems, Rocket flight, Satellite vehicle research, Rocket-assisted projectiles

Vermishev, Yu. Kh.
MISSILE GUIDANCE. 13 Nov 62 [90]p. 8 refs.
FTD-TT-62-1335.
Order from OTS or SLA $8.10 63-15305

Unedited rough draft trans. of mono. Upravlenie Raketami, Moscow, 1961, 78p.

DESCRIPTORS: *Guided missiles, *Guidance, Control systems, *Gyro stabilizers, *Inertial guidance, *Command guidance, Guided missile trajectories, *Homing devices, Stabilization systems.

Contents:
General principles of missile guidance
Flight stabilization of a missile
Internal guidance systems
Command methods of guidance
Homing methods and combined methods of guidance

Sanitation and Safety Engineering

REGULATION GOVERNING THE PRODUCTION, SALE, STORAGE, TRANSPORTATION, AND USE OF POISONS IN BULGARIA. 31 Jan 63 [13]p. JPRS: 17404.
Order from OTS $0.50 63-21032

Trans. from Durzhaven Vestnik (Bulgaria) 1963, no. 3, 11 Jan, p. 1-3.

DESCRIPTORS: *Poisons, Production, *Storage, *Transportation, Control, *Bulgaria.

This list of regulations designates the procedures for production, sale, storage, transportation and use of poisons, namely: alkaloids and their compounds; arsenic compounds and preparations; esters of phosphoric, thiophosphoric, purophosphoric and other acids containing phosphorus and preparations containing them; mercury compounds and preparations; hydrocyanic acid and preparations containing it or its compounds. A detailed list of poisons is given as an appendix at the end of this article

Glevoba, L. F.
STATUS OF DUST ELIMINATION IN NONFERROUS METALLURGY ENTERPRISES. 1 Oct 62 [8]p. JPRS: 15505.
Order from OTS or SLA $1.10 63-15709

Trans. of Gigiena i Sanitariya (USSR) 1956 [v. 21] no. 8, p. 56-57.

DESCRIPTORS: *Atmospheric pollution, *Waste gases, Wastes (Industrial), Purification, *Copper, *Lead, *Zinc, *Aluminum, *Conferences.

A summary of papers presented at the All Union Conference on the Problem of Improving the Purification of Industrial Wastes in the Atmosphere of Nonferrous Metallurgy Enterprises, Moscow, April 1956, convened by the Ministry of Nonferrous Metallurgy USSR. The conference was devoted to a discussion of dust elimination problems at copper smelting enterprises and aluminum and other branches of the nonferrous metallurgy industry, and to the state of scientific research activities.

Kalabina, M. M., Rogovskaya, Ts. I., and Shneerson, L. I.
BIOCHEMICAL TREATMENT OF PHENOLIC WASTE WATERS OBTAINED IN THE THERMAL PROCESSING OF BROWN COAL (LIGNITE) AND SHALES. [1963] 13p.
Order from ATS $14.50 ATS-77P66R

Trans. of mono. Ochistka Prom[yshlennykh] Stochnykh Vod, Vses[oyuznyi] Nauchn[o]-Issled[ovatel'skii] Inst[itut] Vodosnabzh[eniya] Kanaliz[atsii] Gidrotekhn[icheskikh] Sooruzhenii i Inzh[enernoi] Gidrogeol[ogii], Tr[udy] Soveshch[anie] Moscow, 1958 (pub. 1960) p. 131-143.

DESCRIPTORS: *Water supplies, Wastes (Industrial), *Purification, Shale, Coal, Processing, Biochemistry.

Kalyuzhnii, D. N.
PREVENTION OF AIR POLLUTION BY FERROUS METALLURGICAL ENTERPRISES. 6 Mar 63 [13]p. JPRS: 17984.
Order from OTS $0.50 63-21263

Trans. of mono. Sanitarnaya Okhrana Atmosfernogo Vozdukha ot Vybrosov Predpriyatii Chernoi Metallurgii (Sanitary Protection Against Air Pollution by Waste Products from Ferrous Metallurgical Enterprises) Kiev, 1961, p. 166-171 and 182-183.

DESCRIPTORS: *Atmospheric pollution, *Wastes (Industrial), *Sanitary engineering, Iron industry, Steel industry, Metallurgy.

Contents:
Appendix I: Model program for the inspection of industrial enterprises to reveal and eliminate sources of air pollution
Appendix II: Sanitary classification of industries and protective zones
Table of contents.

[Pchelintseva, G. M., ed.].
RÈGLEMENTS SANITAIRES DES TRAVAUX SUR LES PRODUITS RADIOACTIFS ET LES SOURCES DE RAYONNEMENTS IONISANTS. 10 Feb 62 [159]p. CEA Trans. no. R 1489 (text in French).
Order from OTS or SLA $12.00 62-33765

Trans. in French of mono. [Sanitarnye Pravila Raboty s Radioaktivnymi Veshchestvami i Istochnikami Ioniziruyushchikh Izluchenii] [Sanitary Regulations for Work with Radio-Active Substances and Sources of Ionizing Radiations]. Moscow, 1960 [119]p. A trans. in English is available from OTS $2.25 as AEC-tr-4612, Oct 61, 114p.

DESCRIPTORS: *Sanitary engineering, Public health, Laboratories, *Radiochemistry laboratories, Radioactive isotopes, Radioactive waste, *Transportation, *Storage, *Ventilation, *Water supplies, *Sewage, Liquids, *Cleaning, *Decontamination, Radiation effects, Radiation tolerance, Radiation counters, Dosimeters, Radioactivation analysis, Diseases, *Physical fitness, *Radiological contamination, Radiological physics, Test methods, *Personnel, Labor, Industrial equipment, *Industrial training, Records, Reports

For abstract see Technical Translations: 7: 137, 1962

Schramm, Günter.
DECREASE IN THE DUST CONTENT OF THE ATMOSPHERE DURING BLASTING THROUGH THE USE OF WATER STEMMING. [1962] [19]p. 23 refs.
Order from SLA $1.60 62-20163

Trans. of Bergbautechnik (Germany) 1961, v. 11, no. 5, p. 260-265.

DESCRIPTORS: *Dusts, Reduction, *Wetting agents, Atmospheric pollution, Explosives, Detonation, *Mining engineering.

A comprehensive survey is made of the literature in the field of water stemming both in Germany and in other countries. In the author's own experiments, aqueous solutions of wetting agent were used which had already given good results in combating dust in compressed air stemming. Through the use of a 1 percent wetting-agent solution, the dust content of the atmosphere following the blast was reduced 35 to 45 percent as compared with the atmosphere when clay stemming was used. The CO and nitrous oxide content of the fumes was also reduced. The reduction of the dust content with water stemming plugs using plain water was significantly less, amounting to about 15 to 25 percent. (Author)

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Herbst, Walter.
PROCEDURE FOR THE PREPARATION OF CELLULOSE FLOURS. 25 Nov 61 [12]p.
Order from OTS or SLA $1.60 62-14268

Trans. of French patent 847,587, 12 Oct 39.

DESCRIPTORS: Preparation, *Cellulose, *Flour, Animals, *Food, *Diet, Dehydrated substances, Powders.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

USSR INDUSTRIAL DEVELOPMENT: SOVIET CONSTRUCTION MACHINERY NO. 26. 20 Feb 63 [13]p. JPRS: 17753.
Order from OTS $0.50 63-21182

Trans. of Mekhanizatsiya Stroitel'stva (USSR) 1963 [v. 20] no. 1, p. 1-2; and from Pravda, Moscow (USSR 1962, 16 Nov, p. 3.

DESCRIPTORS: *Industrial production, *Machines, *Construction, *Hoists, Floats, Buildings, Construction materials industry, Industrial equipment, Maintenance.

Contents:
New Soviet floating crane, by V. Tashkinov
Speeding up technical progress in construction.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METALWORKING EQUIPMENT NO. 45. 18 Feb 63 [26]p. JPRS: 17702.
Order from OTS $0.75 63-21156

Trans. of Mekhanizatsiya i Avtomatizatsiya Proizvodstva (USSR) 1962 [v. 16] no. 11, p. 34-40; Promyshlennost' Armenii (USSR) 1962 [v. 5] no. 10, p. 35 and 59; Referativnyi [Sbornik] Ekonomika Promyshlennosti (USSR) 1962, no. 11, p. 120; and from Pravda, Moscow (USSR) 1962, 29 Nov (excerpts); 30 Nov, p. 3; Kommunist, Erevan (USSR) 1962, 7 Dec; Sovetskaya Belorussiya (USSR) 1962, 1 Dec, p. 1.

DESCRIPTORS: *Industrial production, *Machine tool industry, *Automation, *Conveyors, Industrial plants, Design, Production, *Hydraulic presses, *Lathes, Cutting tools.
(Machinery, Fabrications and Accessory Equipment,
Contents:
Extensive use of rotor lines, by L. N. Koshkin
Moscow special machine tool and automatic lines plant, by M. Berman
Machine tool building: new horizons, by A. Kasabyan
Production structure and design work at the Moscow machine tool building plant imeni Ordzhonikidze, by V. Amelin
Two new semiautomatic hydroduplicating machine
Automation in the electrical industry, by N. Popov
Semiautomatic lathe with multiple cutting tools
Interview with chief of special design bureau no. 8, by Grigorii Il'ich Plashei.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METALWORKING EQUIPMENT NO. 47. 22 Mar 63 [37]p. JPRS: 18301
Order from OTS $1.00 63-21394

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 12, p. 32-34 (excerpts) 38-43 (excerpts); Kuznechno-Shtampovochnoe Proizvodstvo (USSR) 1963 [v. 5] no. 1, p. 1-2 (excerpt) 47-49; VDNKh SSSR. Informatsionnyi Byulleten' [sic] (USSR) 1963, Feb, p. 9-10; and from Sovetskaya Litva (USSR) 1963, 6 Jan; Ekonomicheskaya Gazeta (USSR) 1962, no. 40[61] p. 43; no. 45[66] p. 2 and 47; 1963 no. 5[78] p. 14-15; Trud, Moscow (USSR) 1962, 27 Dec, p. 3; Lesnaya Promyshlennost' (USSR) 1963, 3 Feb, p. 1.

DESCRIPTORS: *Industrial production, *Metals, *Machines, *Mechanical working, *Material forming, *Machine tools, Programming, Control, Industrial equipment, Automation, Gears, Cutting tools, Casting, Pipes, Economics, Industrial research, Conferences, Forge presses, Tool steel, Mechanical properties, Maintenance.

Contents:
Machine tools of 1963, Lithuanian SSR.
Shortcomings in the work of SKB-13 and machine-tool building plants
Programmed controlled machine tools of the Novosibirsk Tvazhstankogidropress plant, by S. Shupta
Automatic production lines for the die forging of ball bearing raceways, by G. A. Brudnoi
Model 1F616 semi-automatic chucking lathe, by V. A. Kurakin
Model 5P23BP high-precision semi-automatic gear shaping machine for cutting straight-bevel gears, by B. G. Zudov

52TM-2 gear shaping machine for cutting bevel gears, by A. V. Bogachev
New friction press built; automatic upsetting and pressure casting machines for sale
Giant press
Nov. Plenary session of the Central Committee CPSU and out tasks
All-Union Scientific-Technical Conference on Remote and Programmed control in Forging-Stamping, by V. V. Filippov
The Scientific-Technical Conference on the Experience of Designing and operation of Automatic Lines of the Forging-Stamping Industry, by S. L. Ziotnikov
Manufacture of gear teeth by the plastic deformation method
Automatic equipment at Khar'kov enterprises, by P. Miroshnikov.

Albert, M. A.
SEMI-AUTOMATIC MANIPULATOR FOR CLOSED-DIE FORGING HAMMERS (Kantovatel-Poluavtomat k Shtampovochnomu Molotu). May 60 [6]p. BISI Trans. 1738; [DSIR] NLL M.6351.
Order from OTS or SLA $1.10 62-32084

Trans. of Kuznechno-Shtampovochnoe Proizvodstvo (USSR) 1959, v. 1, no. 7, p. 38-40.
Also available from BISI - 2 15s as BISI-1738 [1960].

DESCRIPTORS: *Forge presses, *Remote control systems, Hammers, Automatic.

Gallon, M.
INSTALLATION AND FIRST RESULTS OF TURBINE DRILLING AT SAINT-BAUZILLE (Installation et Premiers Résultats du Forage à la Turbine, à Saint-Bauzille). 25 Apr 56 [13]p. (foreign text included).
Order from SLA $1.60 62-16652

Trans. of Techniques du Pétrole (France) 1956, Feb, p. 4305-4307.

DESCRIPTORS: *Drilling machines, *Turbines, Installation, Tests, Well drilling.

Gilev, N. K.
AN INVESTIGATION INTO THE WORK OF CUTTERS IN CUTTING BRANCHES. Apr 62, 45p. (Figs. omitted) 6 refs. FPRB Trans. no. 148.
Order from NRCC NRCC C-3947

Trans. of [Tsentral'nyi Nauchno-Issledovatel'skii Institut Mekhanizatsii i Energetiki Lesnoi Promyshlennosti. Trudy] (USSR) 1960, v. 18, no. 6, p. 3-53.

DESCRIPTORS: *Forrestry, Trees, *Wood, *Cutting tools, Milling machines, Feed mechanisms, Mathematical analysis.

Hofe, H. von.
DEVELOPMENT OF THE OXYGEN-CUTTING MACHINE FROM THE SIMPLE DEVICE TO THE MODERN MACHINE-TOOL. [1962] [24]p. 5 refs.
Order from SLA $2.60 62-20059

Trans. from Mitt[eilungen] der B E F A (West Germany) 1952, no. 11.

DESCRIPTORS: *Oxygen, *Cutting torches, Machine tools, Construction, Design, Cutting tools.

Mechanized oxygen-cutting provides quality surfaces and makes it possible to obtain accurate shapes in plate thicknesses of up to 100 mm and more. Thanks to the peculiar nature of the oxygen-cutting process, in which the oxygen jet acts as the cutting tool, even heavy cuts are accomplished with great ease and the (Machinery, Fabrications and Accessory Equipment, energy required for the propulsion of this tool is very small. The various flame-cutting machine types are described from the point of of view of their different design characteristics. The possibilities of multiple torch operations and the relationships between motor drive and torch control in the different types of machines are discussed. The development of the various kinds of flame-cutting machines and their modes of operation are described, and in the final chapter several new special purpose machines are dealt with. (Author)

Kachelkin, L. L. and Rushnov, N. P.
EQUIPMENT FOR CHIPPING, LOGGING AND SAW-MILL RESIDUE. Apr 62, 24p. (figs. omitted) 9 refs. FPRB Trans. no. 151.
Order from NRCC NRCC C-3967

Trans. of [Tsentral'nyi Nauchno-Issledovatel'skii Institut Mekhanizatsii i Energetiki Lesnoi Promyshlennosti. Trudy] (USSR) 1960, v. 23, no. 3, p. 3-32.

DESCRIPTORS: *Forestry, Trees, *Wood, Processing, Machines, Cutting tools, Milling machines, Conveyors, Blowers.

Lueg, W[erner].
IMPROVING QUALITY OF DRAWING TOOLS BY MODERN METHODS OF MEASURING THE BORE OF WIRE DRAWING DIE. 16 Feb 52, 21p. (figs. refs. omitted).
Order from SLA $2.60 62-18436

Trans. of Stahl und Eisen (West Germany) 1951, v. 71, no. 4, p. 157-170 (Max Planck Institut [für Eisenforschung (West Germany). Communication]-530; [Verein Deutscher Eisenhüttenleute (West Germany). Berichte]-33).

DESCRIPTORS: *Wire, *Drawing (Machine processing) *Dies, Quality control, Nozzles, Machine tools.

Sichikov, M. F.
BRANCH MEETING OF POWER MACHINE BUILDERS. USSR Industrial Development: Soviet Power Machinery no. 9. 11 Mar 63 [17]p. JPRS: 18051.
Order from OTS $0.50 63-21293

Trans. of Teploenergetika (USSR) 1962 [v. 9] no. 12, p. 83-85.

DESCRIPTORS: *Industrial production, *Conferences, *Power equipment, Electric power production, *Boilers, *Turbines, Design, Construction.

Stäger, H.
FRICTION AND LUBRICATION. 25 Jan 50, 20p. (figs. formulae tables refs. omitted).
Order from SLA $1.60 62-20356

Trans. of Schweizer Arch[iv für Angewantde Wissenschaft und Technik] 1949, v. 15, no. 4, p. 97-116.

DESCRIPTORS: *Lubrication, *Friction, Lubricants, *Metals, *Machining.

Teske, K.
CONTRIBUTION TO THE CLARIFICATION OF THE PROCESS OF FLAME CUTTING. [1962] [10]p. 1 ref.
Order from SLA $1.10 62-20128

Trans. of Schweissen u[nd] Schneiden (West Germany) 1956, v. 8, no. 4, p. 122-129.

DESCRIPTORS: *Cutting tools, *Torches, Iron, Steel.

Tiraspolsky, W., Rouviere, R., and Chare, J.
PROFITIBILITY OF THE CONVERSION OF THE ROTARY TO TURBINE DRILLING (IN THE LIGHT OF THE FIRST RESULTS OF SAINT-BAUZILLE-DE-MONTMEL). [1962] [13]p. 1 ref.
Order from SLA $1.60. 62-16655

Trans. of Rev[ue de l']Inst[itut] Franç[ais du] Pétrole et Ann[ales des Combustibles Liquides] 1956, v. 11, no. 2, p. 190-196.

DESCRIPTORS: *Drilling machines, *Turbines, Effectiveness, Well drilling.

The experiments at Saint Bauzille have shown that we already dispose in France of a sufficiently developed tool system that would permit passing to an industrial expansion of turbo-drilling. In a large portion of the French wells, turbo-drilling should pay off immediately. (Machinery, Fabrications and Accessory Equipment, This relates not only to the 10 inch turbine of which a first series is the stage of construction, but also - and perhaps still more - to the 7-3/4" model for which the construction of prototypes is underway. It is probable that the same holds true for the 10" turbo-core sampler. (Author)

Wildförster, E.
THREAD BROACHING. [1962] 3p. (figs. omitted).
Order from SLA $1.10 63-10040

Trans. of Werkstatt u[nd] Betrieb (West Germany) 1948 [v. 81, no. 5] p. 128.

DESCRIPTORS: *Broaches, *Cutting tools, Machines.

Wooding, Henry Gardner.
SPOOL. 7 July 47 [1]p. (figs. omitted).
Order from OTS or SLA $1.10 62-18475

Trans. of German patent 378,119, 9 Mar 22 (Priority: Gt. Brit. 9 Mar 31 [sic]).

DESCRIPTORS: *Machines, *Geometric forms.

Yugov, V. G. and Osipov, A. I.
THE USE OF HIGH-SPEED WATER JETS IN WOOD CUTTING AND PROCESSING. Apr 61 [15]p. (figs. omitted) 14 refs. FPRB Trans. no. 149
Order from NRCC NRCC C-3959

Trans. of [Tsentral'nyi Nauchno-Isseldovatel'skii Institut Mekhanizatsii i Energetiki Lensoi Promyshlennosti. Trudy] (USSR) 1960, v. 15, no. 6, p. 71-92.

DESCRIPTORS: *Forrestry, Trees, *Wood, Processing, *Cutting tools, *Liquid jets, Compressors, Fluid dynamics.

Engines and Propulsion Systems

Alemasova, N. A.
ON THE JOINT OPERATION OF THE ROTOR AND THE BLADED DIFFUSOR OF A CENTRIFUGAL COMPRESSOR (O Sovmestnoi Rabote Kolesa i Lopatochnogo Diffuzora Tsentrobeshnogo Kompressora). Jan 61 [10]p. 8 refs. TIL/T. 5130; [DSIR] NLL M. 3340.
Order from OTS or SLA $1.10 62-25345

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedenii]. Aviat[sionnaya] Tekh[nika] (USSR) 1959, no. 3, p. 26-45.

DESCRIPTORS: *Jet engines, *Centrifugal compressors, *Diffusers, *Compressor blades, *Compressor rotors, Gas flow.

The paper aims at (1) a more detailed examination of the structure of the flow at the outlet from the rotor; (2) obtaining a three-dimensional pattern of the flow in a vaneless diffusor; (3) determining the value of the losses of efficiency of a vaneless diffusor; (4) estimating the influence of a vaned-diffusor on the flow issuing from the rotor; and, (5) on the basis of the investigation offering recommendations on the designing of a vaned-diffusor, ensuring better matching in operation with a rotor. (Author)

Dorfman, A. Sh., Pol'skii, N. I., and Saikovskii, M. I.
A CHARACTERISTIC OF LOCAL EXPANSION OF DIFFUSOR CHANNELS (Ob Odnoi Kharakteristike Lokal'nogo Rasshireniya Diffuzornykh Kanalov). [1962] [19]p. (foreign text included) 2 refs.
Order from OTS or SLA $1.60 62-20260

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1959, v. 2, no. 4, p. 8-14.

DESCRIPTORS: *Diffusers, Exhaust diffusers, *Turbine parts, Gas turbines, Thermal expansion, Design, Geometry.

The paper introduces a certain geometric characteristic of local expansion in curvilinear diffusors, as applied to the study of radial ring diffusors of the exhaust pipes of turbines. (Author)

Jost, W. and Müffling, L. von.
AN INVESTIGATION OF THE REACTION KINETICS OF KNOCKING IN A MOTOR. [1962] 20p. (figs. omitted) 15 refs.
Order from SLA $1.60 63-10701

Trans. of Z[ei]tschr[ift für] Elektrochem[ie] (Germany) 1939, v. 45, no. 1, p. ff93-99.

DESCRIPTORS: *Internal combustion engine, *Knocking, *Reaction kinetics.

Schanz, F.
CONSTRUCTION OF AN IMPROVED ESCHER WYSS CONTROLLABLE PITCH PROPELLER (Konstruktive Neuerungen am Escher Wyss-Verstellpropeller). Sep 61 [12]p. 2 refs. Bu Ships Trans-760, rev.
Order from OTS or SLA $1.60 62-25863

Trans. of Schiff und Hafen (West Germany) 1961, v. 13, no. 2, p. 146-152.

DESCRIPTORS: *Variable-pitch propellers, *Propellers (Marine), Servomechanisms, Construction, Underwater propulsion.

Machine Parts and Mechanisms

BRAKE FOR A PAPER REEL APPLICABLE IN ROTARY PRESSES. [1962] 4p.
Order from OTS or SLA $1.10 62-18556

Trans. of French patent 787,357, gr. 17, cl. 2, appl. 13 Mar 35, issued 1 July 35, pub. 21 Sep 35 (appl. filed in Germany 21 Mar 34, by Winkler, Fallert and Co. Ltd., Switzerland).

DESCRIPTORS: *Printing, *Presses (Machinery), *Brakes, Paper, Handling.

Graben, Peter and Vehmeier, Heinrich.
THREAD CUTTING AND THREAD CLAMPING DEVICE FOR SPECIAL SEWING MACHINES, tr. by L. A. N. 20 June 62, 3p. (2 figs. omitted).
Order from OTS or SLA $1.10 62-25687

Trans. of German patent 311,048, cl. 52a, gr. 38, pat. from 21 Dec 17, pub. 21 Feb 19, add. to pat. 310,510.

DESCRIPTORS: *Sewing machines, Threads, Electric current, Filaments, *Cutting tools, Automatic.

Graben, Peter and Vehmeier, Heinrich.
THREAD CUTTING AND THREAD CLAMPING DEVICE FOR SPECIAL SEWING MACHINES, tr. by G. E. 28 June 62, 6p. (6 figs. omitted).
Order from OTS or SLA $1.10 62-25689

Trans. of German patent 310,510, cl. 52a, gr. 38, pat. from 20 May 17, pub. 27 Jan 19.

DESCRIPTORS: Threads, Automatic, *Cutting tools, Clamps, Electromagnets, Electric discharges, *Sewing machines.

Meerovich, I. I.
STRESS DISTRIBUTION IN COMPRESSOR BLADES DURING VIBRATION. 4 Dec 62 [112]p. 12 refs. FTD-TT-62-740.
Order from OTS or SLA $9.60 63-15306

Unedited rough draft trans. of mono. Raspredelenie Napryazhenii v Kompressornykh Lopatkakh pri Kolebaniyakh, Moscow, 1961, 107p.

DESCRIPTORS: Compressor parts, *Compressor blades, Vibration, Stresses, Distribution, Mathematical analysis.

This study sets forth a method for the computation of natural vibrations in compressor blades of compressors of all designs used in the various branches of machine building. For the first time, it has been possible to obtain, on the basis of the theory of plates, a practically convenient solution for calculating the forms and frequencies of the natural vibrations and the stresses in the vicinity of resonance. Diagrams, tables, and approximate formulas that simplify the calculations considerably are presented. Also given is an illustrative numerical calculation for a blade of arbitrary type with a comparison of the results with experiment. (Soviet editors note)

Reitzig, Albert.
SUBDIVIDED CLAMP FOR TUBING, tr. by J. B. 27 June 62, 2p. (1 fig. omitted).
Order from OTS or SLA $1.10 62-25690

Trans. of German patent 386,848, cl. 47f, gr. 17, pat. from 27 June 22, pub. 22 Dec 23.

DESCRIPTORS: Rubber hose, Metals, *Clamps, Design.

Manufacturing Equipment and Processes

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 56. 6 Mar 63 [48]p. JPRS: 17962.
Order from OTS $1.25 63-21253

Trans. of Narodnoe Khozyaistvo Kazakhstana (USSR) 1962 [v. 4] no. 8, p. 21-24, 47-50, 68-70; N[auchno]-T[ekhnicheskie] O[bshchestva SSSR] 1962[v. 20]no. 11, p. 46-47; and from Sovetskaya Torgovlya (USSR) 1962 [v. 35] no. 11; and no. 12.

DESCRIPTORS: *Precision equipment, Industrial production, Economics, *Radioactive isotopes, *Nuclear industrial applications, *Machines, Production, Industrial plants, Design, Engineering personnel, Medical research, *Medical equipment, *Photographic equipment, *Electrical equipment, Quality control.

Contents:
An economist's work does not permit delays: report from the Aktyubinsk Aktyubrentgen plant, by N. Ermakova
Radioactive isotopes in industry, by S. Bukharbaev
Design engineers and production at the Kokchetav machinery plant, by V. Orlov
Modern medical equipment for cancer research exhibited at the International Cancer Congress (no. 8) Moscow
Demands of amateur photographers upon industry, by T. Ostanovskii
Quality of electric home appliances, by Yu. Grabil'tsev.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 59. 13 Mar 63 [23]p. JPRS: 18105.
Order from OTS $0.75 63-21311

Trans. of Tekhniko Kino i Televideniya (USSR) 1962 [v. 6, no. 11] p. 65-68; Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 11, p. 61-64; Ogneupory (USSR) 1962 [v. 27, no. 11] p. 521; Narodnoe Khozyaistvo Kazakhstana (USSR) 1962 [v. 20] no. 9, p. 66.

DESCRIPTORS: *Precision equipment, *Industrial production, Motion-picture cameras, Quality control, Monitors, Refractory materials, Weight, Machine shop practice, Balances, Automatic, Remote control systems, Casting, Production, Economics

Contents:
The quality of amateur motion-picture equipment must be improved, by P. M. Krimerman and V. G. Kudryavtsev
Instruments from the Chelyabinsk plant, by B. Ya. Verkhoturov and M. I. Kandalov
Batch-weighing equipment used in production of refractories
Mechanization raises machine-shop productivity
Automatic recording scales
Design changes produce savings in casting

Matta, M.
APPLICATIONS OF RECTIFIERS TO ROLLING MILLS. [1961].
Order from BISI £5 10s BISI-1869

Trans. of Bulletin AIM [sic] 1959, Apr/May, p. 323-342.

DESCRIPTORS: *Rolling mills, Rectifiers, Iron industry, Steel industry.

Yutkin, L. A. and Gol'tseva, L. I.
METHOD OF CLEANING ROLLED MATERIAL OF SCALE. 30 Oct 62 [4]p. FTD-TT-62-1295.
Order from OTS or SLA $1.10 63-13924

Unedited rough draft trans. of [Soviet] patent 114172, appl. no. 586042/48a, 1_{03}, 12 Nov 62 [sic]

DESCRIPTORS: *Scale, Sheets, *Cleaning, Hydraulics, Electric discharges, Abrasives, *Electrohydraulics.

A method of cleaning rolled material of scale, is distinguished by the fact, that, for the purpose of scaling the scale, the cleaning is done by electrohydraulic shocks, obtained from dischargers, placed in a liquid bath with the simultaneous application of reflectors. For the purpose of intensifying the scaling, an abrasive material is introduced to the liquid bath, where the electro-hydraulic shocks occur. (Author)

Transport, Traction and Hoist Facilities

Söderlund, John and Hagstedt, Bengt.
WHEEL TRACTORS IN TRANSPORTATION OPERATIONS. I. [AND] WHEEL TRACTORS IN THE HAULING SERVICE. II. Mar 62, 11p. FPRB Trans. no. 146.
Order from NRCC NRCC C-395f

Trans. of Skogen (Sweden) 1961, no. 18, p. 322-323; no. 19, p. 344-345.

DESCRIPTORS: Transportation, *Tractors, *Trailers, *Tracked vehicles, Wood, Trafficability.

Wesnigk, Erwin.
THREE-WHEELED VEHICLES [Motordreiräder]. [1962] 9p.
Order from K-H $11.25 K-H 6874 a

Trans. of Verein Deutscher Ingenieure. Zeitschrift (Germany) 1933, v. 77, no. 4, p. 96-97.
Another trans. is available from SLA $1.60 as 62-10315 [11]p. (foreign text included).

DESCRIPTORS: *Vehicle wheels, *Passenger vehicles, Stability, Design, *Automotive industry.

MATERIALS

Kenney, G. A.
A PROCESS FOR THE MANUFACTURE OF NON-WOVEN FIBROUS PRODUCTS. [1962] 26p. (figs. omitted).
Order from OTS or SLA $2.60 62-18509

Trans. of Belgian patent 608,646 [Sep 61] application filed in U. S. A., 15 Dec 59, by E. I. DuPont de Nemours & Co.

DESCRIPTORS: *Fibers (Synthetic), *Filaments, Fibers, Sheets, *Polymers, Manufacturing methods.

This invention pertains to the manufacture of non-woven fibrous products from continuous synthetic filaments, in a single rapid and continuous operation. (Author)

Melenevs'ka, P.
CORROSION OF REINFORCEMENT STEEL IN POROUS CONCRETE. 13 Feb 63 [6]p. (figs. omitted). JPRS: 17616.
Order from OTS $0.50 63-21125

Trans. of Budivel'ni Materialy i Konstruktsii (USSR) 1962, v. 4, no. 4, p. 13-15.

DESCRIPTORS: Corrosion research, *Reinforcing materials, *Corrosion, *Reinforced concrete, Porous materials, *Corrosion inhibition, Varnishes, Coatings, Phosphates, Concrete.

Kuzbas lacquer, No 177 bitumen butyrate lacquer, mixture of Kuzbas lacquer with pentachlorvinyl (1 : 1) by weight, and ethylene lacquer were tested as corrosion inhibitors on both phosphatized and unphosphatized steel rods used to reinforce porous concrete structures.

Mikkhailov, N. V., Fainberg, E. Z., and Kozler, M.
INVESTIGATION OF THE FINE MOLECULAR STRUCTURE OF ORIENTED REGENERATED CELLULOSE FIBRES (Izuchenie Tonkoi Molekulyarnoi Struktury Orientirovannykh Gidrattsellyulosnykh Volokon).
Sep 62 [14]p. 7 refs. RTS 2114.
Order from OTS or SLA $1.60 62-32953

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, no. 7, p. 1031-1038.

DESCRIPTORS: *Cellulose, *Fibers, *Viscose, *Molecular structure, Tires, Cordage, Physical properties, Mechanical properties.

Density measurements were made on three types of viscose cord fibres. It was shown that the properties of cord fibres are determined, not by the absolute density values in the dry, or even in the moist state, but by the curve expressing the dependence of the actual density of the fibre on its moisture content. On the basis of a simultaneous examination of data obtained from density measurement and partial heats of wetting, it was shown that fibre No. 3 was the most rigid. This fibre is apparently composed of a large number of strong bonds and a small number of weak bonds. The most homogeneous fibre from the point of view of the energy of intermolecular bonds, was found to be super-strong cord fibre No. 1. Our investigation showed that data obtained from measurement of the actual density of the fibre (when applied to the dry state) can - depending on its moistness - serve as a criterion of the homogeneity of the fibre, i.e. the distribution of intermolecular bonds as regards their energy. The increased physical and mechanical properties of new types of cord fibres are due to the homogeneous distribution of the intermolecular bonds as regards energy. The theory is put forward, that the fundamental reason for the vitrification of fibres is their heterogeneity as regards the number and energy of their intermolecular bonds. (Author)

Morozova, L. P.
ADHESION OF HIGH POLYMERS IN RELATION TO STRIPPING AND TO ELECTRICAL CHARACTERISTICS. 8 Dec 60 [26]p. 13 refs.
Order from OTS or SLA $2.60 61-18261

Trans. of Tsentral['nyi] Nauch[no]-Issledovatel'[skii] Inst[itut] Kozhevenno-Obuvnoi Prom[yshlennosti]. Nauch[no]-Issledovatel'[skie] Trudy (USSR) 1957, no. 28, p. 119-131.

DESCRIPTORS: *Bonding, *Adhesives, Electrical properties, Diffusion, Polymers, Nitrocellulose, Polyvinyl chloride, Polyamide plastics, Acetal plastics, Rubber, Polyethylene plastics, Butenes, Gelatin, Leather, Metals, Glass.

An investigation was made of the formation of the adhesive bond when two high-molecular weight materials are bonded and of the clarification of the relative role of electrical and diffusion processes in the adhesion phenomena. The polymers investigated were as follows: perchlorovinyl, nitrocellulose, polyamide resin, BF-6, polyvinyl butyral, gutta-percha, polyethylene, polyisobutylene. SKB and SKN Rubbers, gelatin, leather, and, for comparison, metal and glass were used as backing substrates. (Author)

Pilipenko, V. P. and Shepelev, V. M.
PROTECTING THE REINFORCEMENTS USED IN POROUS ASH CONCRETE ITEMS. 26 Feb 63 [7]p. JPRS: 17837.
Order from OTS $0.50 63-21213

Trans. of Energeticheskoe Stroitel'stvo (USSR) 1961, no. 22, p. 95-98.

DESCRIPTORS: Corrosion research, *Reinforcing materials, *Reinforced concrete, Porous materials, Ash, Concrete, *Corrosion inhibition, Protective treatments, Coatings.

Details are presented of a method of coating reinforcements with casein-cement containing a sodium-nitrite additive.

Ribbe, Francois.
NEW CONSTRUCTION MATERIALS WHICH HAVE BEEN OBTAINED BY CASTING OF CERTAIN ROCKS AFTER THEY HAVE BEEN MOLTEN, AND BY RENDERING THEM LIGHTER EITHER BY THE BLOWING- IN OF GASES, WHICH RENDERS THEM PUMICEOUS, OR BY A SIMPLE HOLLOWING- OUT. [1962] 10p.
Order from OTS or SLA $1.10 62-18202

Trans. of French patent 417,925 appl. 14 Sep 1909, granted 15 Sep 10, issued 25 Nov 10.

DESCRIPTORS: *Rock, *Construction materials industry, Melting, Casting, Gases, Porosity.

Ceramics and Refractories

Kovtunenko, G. A. and Shalimo, Z. N.
THE COLORING OF GLASS WITH COBALT PIGMENTS OF THE SPINEL TYPE. [1962] 3p.
Order from ATS $5.00 ATS-28P59R

Trans. of Akad[emiya] Navuk BSSR [Minsk]. Inst[itut] Fiz[iko]-Org[anicheskoi] Khim[ii]. Sbornik Nauch[nykh] Rabot, 1959, v. 7, p. 185-187.

DESCRIPTORS: *Glass, Colors, *Cobalt, *Pigments, Spinels.

Spira, Joh. Chr.
THE GLASS WAR IN GERMANY (Der Glaskrieg in Deutschland). [1962] [9]p. (foreign text included).
Order from SLA $1.10 62-20302

Trans. of Automobil-Revue (Switzerland) 1962, v. 57, no. 32, p. 19 and 23.

DESCRIPTORS: *Glass, Germany, Automotive industry, Safety, *Laminated glass, Windshields.

Zvyagintsev, V. P.
A MAGNETIZABLE CERAMIC FLUX. 10 Jan 63 [4]p. FTD-TT-62-1439.
Order from OTS or SLA $1.10 63-15581

Unedited rough draft trans. of Soviet patent 114564 (733724/25) 7 June 61.

DESCRIPTORS: *Welding fluxes, *Ceramic materials, *Magnetic materials, Quartz, Titanium.

To a magnetizable ceramic flux containing electrode marble 34% to 38%, fluorspar 20% to 24%, ferromanganese 4% to 5%, ferrosilicon 5% to 7%, iron powder 18% to 22%, and water glass 15%, with this difference that, in order to improve the quality of the weld on articles contaminated by moisture or rust, there is introduced into it 7% to 9% of quartz and 7% to 9% of ferrotitanium. (Author)

Fuels, Lubricants, and Hydraulic Fluids

Borisov, M.
ROUTE NORMS FOR FUEL CONSUMPTION (Marshrutnye Normy Raskhoda Topliva) tr. by R. C. Halsall. Aug. 61 [1]p. DSIR Library communication no. 999; NLL M. 3613.
Order from OTS or SLA $1.10 62-25284

Abstract trans. of Avtom[obil'nyi] Transp[ort] (USSR) 1961, v. 39, no. 3, p. 14-16.

DESCRIPTORS: *Fuel consumption, Cargo vehicles, Passenger vehicles.

Jäppelt, A.
CONTRIBUTION TO THE PROBLEM OF BRIQUETTING BITUMINOUS COAL IN THE PLASTIC STATE. [1962] 18p. 15 refs.
Order from SLA $1.60 62-18948

Trans. of Erdöl u[nd] Kohle (West Germany) 1953, v. 6, p. 613-616.

DESCRIPTORS: *Coal, *Plasticity, *Petrology, Bitumens.

Paushkin, Ya. M., Sychev, R. V. and others.
THE INFLUENCE OF CHEMICAL COMPOSITION AND ADMIXTURES OF THE COMBUSTION OF FUEL IN JET ENGINES. 24 Oct 62 [28]p. 12 refs. FTD-TT-62-743; AD-292 214.
Order from OTS or SLA $2.60 63-13889

Unedited rough draft trans. of mono. Mezhvuzovskoe Soveshchanie po Khimii Nefti [held at Moscow, 1956]. Sbornik Trudov [Moscow U.] 1960, p. 293-314.

DESCRIPTORS: *Jet engine fuels, Additives, *Combustion, Ignition, *Nitric acid, Combustion chambers.

Rammler, E., Breitling, K., and Gall, J.
THE GASIFICATION OF SOLID FUELS IN SMALL PRODUCERS. I. GASIFICATION OF LOW TEMPERATURE COKE IN AN UPDRAUGHT GAS PRODUCER. Sep 42 [56]p. 31 refs.
Order from SLA $5.60 61-18505

Trans. of Reichskohlenrat, Berlin (Germany) no. D83, 1938, Dec.

DESCRIPTORS: Fuels, Solids, *Coke, Gases, Production, *Gas generating systems, Calorimetry, Water vapor, Decomposition, Dew point, Waste gases, Tar, Slags

An examination was made of the important data of a number of low temperature cokes during gasification in a small producer with updraught gasification. Calorific value of the gas, water consumption, gasification efficiency, formation of fly dust, tar content of the gas, slag number, effects of particle sizes, properties regarding flexibility and other characteristics were subjected to comparative investigation. (Author)

Vdovichenko, V. T.
HEAT OF DECOMPOSTION OF HEAVY LIQUID FUEL AT HIGH TEMPERATURES. [1961] 5p. 4 refs. MDF V-126.
Order from OTS $0.50 62-11574

Trans. of Gazovaya Prom[yshlennost'] (USSR) 1957, [v. 2] no. 6, p. 11-13.

DESCRIPTORS: *Fuel oil, Pyrolysis, Heat of reaction, High temperature research.

The heats of decomposition of furnace fuel oil vary from 970 to 1200 $^{kcal}/_{kg}$ of fuel oil at a 700° to 1000° temperature. The heats of decomposition of peat pitch are somewhat lower under the same conditions are vary between 870 to 1100 $^{kcal}/_{kg}$ of pitch. (Author)

Vogelpohl, G.
VISCOSITY OF LUBRICANTS AND ITS BEARING ON DESIGN AND OPERATION OF MACHINES. [1962] 11p. (figs. formulae tables [refs.] omitted).
Order from SLA $1.60 63-10013

Trans. of Brennstoff-Chemie (West Germany) 1954 [v. 35] no. 23/24, p. 363-368.

DESCRIPTORS: Viscosity, *Lubricants, *Machines, Design, Operation, Temperature, *Bearings, Friction, Density.

Leather and Textiles

Ackermann, H. and Dussy, P.
CELLULOSE REACTIVE CHLOROPYRIMIDYL DYES: CHEMICAL REACTIVITY AND FIXATION CAPACITY (Cellulosereaktive Chlorpyrimidylfarbstoffe; Chemische Reaktionsfahigkeit und Fixiervermögen) tr. by D. A. Sinclair. 1962, 17p. 4 refs. NRCC Technical trans. 1007.
Order from NRCC $1.00 NRCC C-3921

Trans. of Melliand Textilberichte (West Germany) 1961, v. 42, no. 10, p. 1167-1172.

DESCRIPTORS: *Dyes, Reaction kinetics, Cellulose, Water, Alcohols, *Fibers, Pyrimidines, Chlorine, Molecular structure.

Enders, H. and Wiest, H. K.
THEORY AND PRACTICAL APPLICATION OF FLUORO CHEMICALS TO TEXTILES (Theorie und Praktische Anwendung von Fluorchemikalien auf Textilien) tr. by D. A. Sinclair. 1963, 19p. 15 refs. NRCC Technical trans. 1053.
Order from NRCC $1.00 NRCC C-4261

Trans. of Textil-Praxis (West Germany) 1960, v. 15, no. 12, p. 1293-1299.

DESCRIPTORS: *Textiles, Processing, Impregnation, *Moisture proofing, Oils, Resistance, *Fluorocarbons, Theory, Effectiveness, *Finishes.

Tomaszewski, Leonard.
A CONTRIBUTION TO THE METHODOLOGY OF THE DETERMINATION OF THE SUSCEPTIBILITY OF FIBERS TO WETTING IN THE MERCERIZING LYE (Przyczynek do Metodyki Oznaczania Zwilzalnosci w Lugu Merceryzacyjnym). [1962] [8]p. 7 refs.
Order from SLA $1.10 62-18906

Trans. of Przeglad Wlokienniczy (Poland) 1962, v. 16, no. 1, p. 32-34.

DESCRIPTORS: *Fibers (Natural), Cotton textiles, *Wetting agents, Surface tension, *Hydroxides, *Sodium compounds, Textiles, Processing.

The contraction of the fiber was investigated both in chemically pure and in technical solutions of the mercerizing lye (30° Be) and it was found that chemically pure NaOH has a better wetting effect than technical NaOH. The contraction of cotton thread of varying gauge and with varying weighting was investigated. Measurements were carried out at various temperatures and it was found that at a temperature of 12° the rate of contraction is initially lower, but reaches its maximum after 2 minutes, while at a temperature of 40° C the initial contraction speed is lower but does not reach as high a value after 2 minutes as at 12° C produced by the Lodz Chemical Institutes has the best wetting properties. The error involved in the modified Landolt method is within the 4.5% limits. It is due to the lack of homogeneity in the cotton fiber used in the tests. The precision of the method is sufficient for the quality testing of any wetting agent. (Author)

Paints and Finishes

Rossmann, E. and Schultze, G.
MOISTURE PERMEABILITY OF LACQUER FILMS. [1962] 10p. (figs. tables refs. omitted).
Order from SLA $1.10 62-20478

Trans. of Korrosion und Metallschutz (Germany) 1943, v. 19, [no. 1] p. 13-19.

DESCRIPTORS: Moisture, Permeability, *Varnishes, *Corrosion prevention, Metals, Plasticizers, Molecular structure, Atmospheric temperature, Diffusion, Pigments, Adhesion.

Schäfer, R. R.
PHYSICAL CHEMISTRY OF LACQUERS [CONTINUED]. Communication no. 11. 24 Jan 47, 18p. (figs. formulae omitted).
Order from SLA $1.60 62-20334

Trans. of [Fette Seifen Anstrichmittel] (Germany) 1943, v. 50, p. 279-288.

DESCRIPTORS: *Varnishes, Physical chemistry, Surface-active substances, Flammability, Odors, Solvents, Aliphatic compounds, Heterocyclic compounds, Monocyclic compounds, Polycyclic compounds

Contents:
Wetting ability
Inflammability
Odor and physiological properties
The most important lacquer solvents
A. Alaphatic compounds
B. Cyclic compounds.

Photographic Materials

ELECTROPHOTOGRAPHIC MATERIAL. [1962] 9p.
Order from OTS or SLA $1.10 62-18511

Trans. of French patent 1, 254, 348, 9 Jan 61, appl. no. 824, 644, 19 Apr 60, internat. cl. G 03 c, G 03 f, by Gevaert Photoproducten N. V., Belgium (pub. in Bulletin Officiel de la Propriété Industrielle (France) 1961, no. 7).

DESCRIPTORS: *Electrophotography, Materials, *Photographic emulsions, Photographic chemicals

The present invention has for its object an electrophotographic material, and more particularly an electrophotographic material composed of a support and a photoconductive layer containing or consisting of an organic photoconductive substance. (Author)

PRESENSITIZED POSITIVE PRINTING PLATES. [1962] 10p.
Order from OTS or SLA $1.10 62-18504

Trans. of Belgian patent 590, 766, 12 May 60, by General Analine and Film Corp.

DESCRIPTORS: Lithography, *Printing, *Photographic plates, Photographic emulsions, Photosensitivity, Photographic chemicals, Photographic printers.

The present invention concerns presensitized positive planographic printing plates comprising a base carrying a light-sensitive layer capable of hardening in the form of an image in regions exposed to visible light through a pattern, and of forming hydrophobic areas, receptive of ink, in the non-exposed regions of the plate by the use of organo-metallic Werner complexes dispersible in water, and of forming hydrophillic areas in the exposed regions. (Author)

Bogachkov, N. L.
EFFECT OF ATMOSPHERIC HAZE UPON AERIAL COLOR PHOTOGRAPHY. [1962] 17p. 8 refs.
Order from OTS or SLA $1.60 62-18600

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematographii (USSR) 1962, v. 7, no. 2, p. 112-120.

DESCRIPTORS: *Aerial photography, *Color photography, Meteorological phenomena, *Haze, Visibility, Sensitivity.

Bukatin, E. A.
TESTING PHOTOGRAPHIC MATERIALS FOR MICROREPRODUCTION. [1962] 4p. 7 refs.
Order from OTS or SLA $1.10 62-18584

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 1, p. 68-69.

DESCRIPTORS: *Microfilm, *Photographic emulsions, Test methods, *Microphotography, Photomicrography.

Dalmatova, S. A., Gut, F. I., and Balashova, V. V.
ILLUSTRATIONS REPRODUCED FROM SHORT-SCALE ORIGINALS. [1962] 8p.
Order from OTS or SLA $1.10 62-18876

Trans. of Poligraficheskoe Proizvodstvo (USSR) 1962, no. 2, p. 18-19.

DESCRIPTORS: *Photoengraving, *Pictures, Reproduction, *Printing, Colors.

Eastman, D. R. and Reithel, R. F.
NEW PHOTOCONDUCTOGRAPHIC PROCESS. [1962] [13]p.
Order from OTS or SLA $1.60 62-18575

Trans. of Belgian patent 606,704, 28 July 61, by Kodak S. A. (U. S. appl. no. 45,951, 28 July 60)

DESCRIPTORS: *Electrophotography, *Photoconductivity, Electrical conductance, Photographic emulsions, Photographic chemicals, Photographic images.

The chief purpose of this invention is a photoconductographic method in which positive prints are obtained on paper from a negative transparency. (Author)

Eastman, D. R. and Reithel, R. F.
NEW PHOTOCONDUCTOGRAPHIC PROCESS AND A GELATIN COMPOSITION WHICH IS USEFUL FOR THIS PROCESS. [1962] [20]p.
Order from OTS or SLA $1.60 62-18574

Trans. of Belgian patent 606,703, 28 July 61, by Kodak S. A. (U. S. appl. no. 45,950, 28 July 60).

DESCRIPTORS: *Electrophotography, *Photographic emulsions, Photographic chemicals, *Gelatin, *Photoconductivity, Polymers, Photographs, Processing.

In this invention, the photoconductographic image is used to control the solubility of gelatin or of certain polymers that are applied on a separate sheet. The object of the invention is to provide a method which gives prints with a larger contrast than that obtained when the final image is formed directly on the photoconducting layer by electrolytic deposit from an electrolyte used in photoconductography. The recording layer itself which carries the gelatin or the polymer does not have to be electrically conductive. (Author)

Eastman, D. [R.] and Reithel, R. F.
A PHOTOCONDUCTOGRAPHIC REPRODUCTION PROCESS. [1962] [27]p. 4 refs.
Order from OTS or SLA $2.60 62-18543

Trans. of Belgian patent 606,705, 28 July 61, by Kodak S. A. (U. S. appl. no. 45,952, 28 July 60).

DESCRIPTORS: *Electrophotography, *Photographic emulsions, Photographic chemicals, Photographs, Processing, Gelatins, *Photoconductivity, Reproduction.

This invention pertains to a new process for photoconductographic reproduction. This process gives complete images in a single operation or at least a non uniform portion of an image, as distinguished them from the facsimile processes which at any given moment only give a point of uniform density. This invention will be useful in facsimile processes, but it is particularly useful in photoconductography. (Author)

Faerman, G. P. and Shishkina, N. N.
DEPENDENCE OF THE AMOUNT OF REDUCED SILVER IN A DEVELOPED EMULSION UPON THE pH VALUE OF DEVELOPER. [1962] 7p. 11 refs.
Order from OTS or SLA $1.10 62-18585

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 1, p. 26-29.

DESCRIPTORS: *Photographic emulsions, *Silver, Reduction, *Photographic chemicals, *Hydrogen ion concentration, Chemical analysis, Motion-picture film, Processing.

Khotoyanovich, S. I. and Giken, A. Yu.
PREPARATION OF ELECTROPHOTOGRAPHIC IMAGES IN LIQUID DEVELOPERS. [1962] 8p. 4 refs.
Order from OTS or SLA $1.10 62-18592

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 1, p. 30-35.

DESCRIPTORS: *Electrophotography, *Photographic images, Processing, Liquids, *Photographic chemicals.

Krylova, T. N.
OPTICAL PROPERTIES OF INTERFERENCE FILMS USED FOR INCREASING THE TRANSMITTANCE OF LIGHT. [1962] 26p. 29 refs.
Order from OTS or SLA $2.60 62-18598

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1961, v. 6, no. 6, p. 462-475.

DESCRIPTORS: *Light transmission, Thin films, *Dielectric films, Optical properties, Photographic lenses, Coatings, Reflection, Interference, Optical instruments.

Almost the entire production of the optical equipment industry is coated for increasing the transmittance of light. The possibilities of increasing the transmittance of light and the characteristics of various coatings used for that purpose have still not been discussed sufficiently. The present paper is intended to explain and generalize this information to some extent. (Author)

Meiklyar, P. V. and Peskova, M. Z.
METHOD FOR MEASURING SPECTRAL ABSORPTION OF EMULSION LAYERS. [1962] 4p. 4 refs.
Order from OTS or SLA $1.10 62-18590

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 1, p. 66-67.

DESCRIPTORS: *Photographic emulsions, *Absorption spectra, Measurement, Spectrophotometers

Nemirovskii, E. L.
DEVELOPMENTS IN ELECTROGRAPHY IN THE SOVIET UNION. [1962] 11p.
Order from OTS or SLA $1.60 62-18677

Trans. of Poligraficheskoe Proizvodstvo (USSR) 1962, v. 38, no. 4, p. 21-23.
Another trans. is available from OTS or SLA $1.60 in 62-32867, JPRS-15093, 4 Sep 62 [16]p.

DESCRIPTORS: *Electrophotography, Photographic printers, Photographic plates, Photographic paper, Printing, Magnetic recording systems.

Nemirovskii, E.
PRINTING WITHOUT TYPE. [1961] [11]p. (2 figs. omitted). AERDL T-879; RIS E 650.
Order from OTS or SLA $1.60 62-13274

Trans. of [Izobretatel' i Ratsionalizator] (USSR) 1960, no. 5, p. 43-46.
Also available from RIS $22.00 as RIS E-650.

DESCRIPTORS: *Printing, *Electrophotography, *Magnetic recording systems.

Plavina, I. Z.
DETERMINATION OF THE SPEED OF ELECTROPHOTOGRAPHIC LAYERS. [1962] 4p. 2 refs.
Order from OTS or SLA $1.10 62-18596

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, V. 7, no. 2, p. 145-146.

DESCRIPTORS: *Electrophotography, *Photographic emulsions, Sensitivity, Potential theory, Time.

Prokhotskii, Yu. M. and Vilenskii, Yu. B.
SILVER CHLOROBROMIDE PHOTOGRAPHIC EMULSIONS WITH GRAINS HAVING A LAMINATED STRUCTURE. [1962] 3p. 7 refs.
Order from OTS or SLA $1.10 62-18879

Trans. of Zhur[nal] Nauch[noi i] Priklad[noi] Fot[ografii i] Kinemat[ografii] (USSR) 1960, v. 5, no. 5, p. 363-364.

DESCRIPTORS: *Photographic emulsions, *Silver compounds, *Chlorides, *Bromides, Preparation, Physical properties.

Ramazanov, K. A.
IMPROVEMENTS IN THE METHOD OF COATING AND THE QUALITY OF ELECTROPHOTOGRAPHIC MATERIALS. [1962] 12p. 9 refs.
Order from OTS or SLA $1.60 62-18597

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1961, v. 6, no. 6, p. 440-447.

DESCRIPTORS: *Electrophotography, Materials, Quality control, *Photographic emulsions, Photographic films, Coatings, Evaporation, *Selenium.

Ritzerfeld, Wilhelm and Ritzerfeld, Gerhard.
METHOD FOR THE PREPARATION OF COPIES OR PRINTING PLATES BY A PHOTOTHERMIC PROCESS. [1962] [9]p. (foreign text included).
Order from OTS or SLA $1.10 62-18815

Trans. of German patent DAS 1,128,871, R 27989 VIb/15k, cl. 15k 7/01, internat. cl. B 41 m, appl. filed 19 May 60, pub. 3 May 62.

DESCRIPTORS: *Printing, *Photographic plates, Preparation, Thermal radiation, Infrared radiation, Reflection, Transmission, Photographic printers.

The invention concerns a method for the preparation of copies or printing plates of a sample or original or proof that is to be transferred, with the use of differentiated IR radiation by reflex- or transmission methods and of a transfer sheet, for example a hectographic dye sheet. (Author)

Ritzerfeld, Wilhelm and Ritzerfeld, Gerhard.
METHOD FOR THE PREPARATION OF COPIES OR PRINTING PLATES BY A PHOTOTHERMIC PROCESS. [1962] [8]p. (foreign text included)
Order from OTS or SLA $1.10 62-18816

Trans. of German patent DAS 1,128,870, R 27980 VIb/15k, cl. 15 k 7/01, internat. cl. B 41 m, appl. filed 18 May 60, pub. 3 May 62.

DESCRIPTORS: *Printing, *Photographic plates, Preparation, Thermal radiation, Infrared radiation, Photographic printers.

The invention concerns a method for the preparation of copies or printing plates of a sample or pattern or proof that is to be transferred, with the use of differentiated IR radiation by reflex- or transmission methods and of a transfer sheet, for instance a hectographic dye sheet. (Author)

Vzhesinskii, A. and Kirillov, N. I.
INVESTIGATION OF THE PROCESS OF DEVELOPMENT OF COLOR NEGATIVE FILM IN DEVELOPERS WITH VARIOUS pH VALUES. [1962] 20p. 27 refs.
Order from OTS or SLA $1.60 62-18589

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 1, p. 5-19.

DESCRIPTORS: *Color film, Processing, *Photographic chemicals, *Hydrogen ion concentration, Sensitivity, Color photography, Photographic images.

Yanson, K. R.
CONTACT SCREENS PREPARED ON A PHOTOGRAPHIC FILM CONSISTING OF TWO LAYERS. [1962] 3p. 5 refs.
Order from OTS or SLA $1.10 62-18588

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 1, p. 62-64.

DESCRIPTORS: *Photographic film, Processing, *Photographic emulsions, Luminescence, Photographic chemicals.

Zyuskin, N. M.
AN ELECTROLYTIC METHOD OF DEVELOPING PHOTOGRAPHIC FILMS. [1962] 5p. 3 refs.
Order from OTS or SLA $1.10 62-18582

Trans. of Zhur[nal] Nauch[noi i] Priklad[noi] Fot[ografii i] Kinemat[ografii] (USSR) 1961, v. 6, no. 5, p. 363-366.

DESCRIPTORS: *Photographic films, Processing, *Electrolysis, Photographic chemicals, Electrolytes.

Plastics

POLYESTER MOLDING COMPOSITIONS. [1962] [18]p.
Order from OTS or SLA $1.60 62-18980

Trans. of Belgian patent 603,067, 26 Apr 61 (Priority: Gt. Brit., 26 Apr 60) by British Industrial Plastics Ltd.

DESCRIPTORS: *Molding materials, Plastics, *Polyester plastics, Material forming, Industrial production, Thermoplastics.

Enikolopyan, N. S. and Vardanyan, M. S.
PREPARATION OF POLYFORMALDEHYDE. [1962] 22p.
Order from K-H $27.50 K-H 12337 c

Trans. of Vses[oyuznoe] Khim[icheskoe] Obshchestvo. Zhurnal (USSR) 1962, v. 7, no. 2, p. 194-200.

DESCRIPTORS: Preparation, *Polymers, *Formaldehyde, *Plastics.

Horn, Heinz.
MANUFACTURE OF FLEXIBLE BANDS FOILS OR HOSES FROM POLYSTYRENE OR A SIMILAR MATERIAL (Herstellung von Biegsamen Bändern, Folien oder Schläuchen aus Polystyrol o. dgl.). [1962] [6]p. (foreign text included).
Order from OTS or SLA $1.10 62-18190

Trans. of German patent 654,757, 13 Jan 38, cl. 39a, gr. 16, N 36008 XII/39a, appl. 25 Nov 33, granted 9 Dec 37, addition to additional patent 654,299, main patent 653,250 valid [from] 25 Oct 32, assigned to Norddeutsche Seekabelwerke A.G.

DESCRIPTORS: *Styrene plastics, *Hoses, *Foils, Material forming.

Kozlov, P. V. and Russkova, E. F.
NITROCELLULOSE: SELECTED ARTICLES. 1963, 8p. 8 refs. PL-480 Agr.
Order from OTS $0.50 63-11007

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 95, no. 3, p. 583-586 and v. 99, no. 1, p. 105-108.

DESCRIPTORS: *Plastic films, *Nitrocellulose, Deformation, Temperature, Molecular weight, *Plasticizers, Camphors, Ethyl radicals, Butyl radicals, Phthalates, Phenyl radicals, Phosphates, Stearates, Castor oil.

Contents:
The influence of low molecular weight substances on the deformation of nitrocellulose in a wide range of temperatures
The influence of molecular weight on the transition temperatures of nitrocellulose.

Moll, W. L. H.
PERMEABILITY OF PLASTIC FOILS TO GASES AND VAPORS. [1962] 28p. 139 refs.
Order from SLA $2.60 62-18862

Trans. of Kolloid Zeitschrift (West Germany) 1959, v. 167, no. 1, p. 55-62.

DESCRIPTORS: *Foils, *Gases, *Vapors, Permeability, *Plastics, *Packing materials, *Containers.

Rubber and Elastomers

Ballini, G. and Portolani, A.
MIXTURES BASED ON COPOLYMERS OF OLEFINS, VULCANIZABLE BY MEANS OF ORGANIC PEROXIDES, AND ELASTOMERS OBTAINED STARTING FROM THESE MIXTURES. [1962] 5p.
Order from ATS $7.00 ATS-03Q67F

Trans. of Belgian patent 616,737 [1961].

DESCRIPTORS: *Elastomers, *Polyethylene plastics, Mixtures, *Vulcanization, Organic compounds, *Peroxides.

Simorda, Josef.
USE OF DIELECTRIC HEATING IN THE RUBBER INDUSTRY. 12 Feb 48 [12]p.
Order from SLA $1.60 62-20353

Trans. of Elektrotechnicky Obzor (Czechoslovakia) 1947, v. 36 [no. 18] p. 332-337.

DESCRIPTORS: *Rubber, *Heating, Dielectric properties, *Vulcanization.

Wood and Paper

DEVICE FOR CUTTING CARDS, PHOTOGRAPHY AND OTHER PAPERS. 31 Oct 58, 3p. (figs. omitted).
Order from OTS or SLA $1.10 62-18459

Trans. of German patent 340,591, 12 June 1920, cl. 11b, gr. 5.

DESCRIPTORS: Paper, *Cutting tools.

FOAM PREVENTION ON THE PAPER MACHINE. 17 Oct 61, 4p.
Order from SLA $1.10 62-18803

Trans. of Allgem [eine] Papier-Rundschau (West Germany) 1957, no. 23, p. 1188-1189.

DESCRIPTORS: *Wood pulp machines, Wood pulp fibers, *Paper industry, *Foams, Inhibition, Bubbles, Sprays.

MEANS OF PREPARING CELLULOSE. [1961] 4p. 2 refs.
Order from OTS or SLA $1.10 62-14573

Trans. of Belgian patent 592803, appl. by Veb Filmfabrik AGFA Wolfen [1959].

DESCRIPTORS: Preparation, *Cellulose, Wood pulp, Sodium, Hydroxides, Neutralization.

Means are proposed of preparing cellulose by an alkaline pulping method without prehydrolysis, and of a caustic solution containing hemicelluloses. The alkaline solution containing hemicelluloses has a sulfidity of 1-13%, preferably 4-10% in relation to the total alkali. The caustic solution is weak, not exceeding 5%. Cooking is done in one stage. Pulping can be done in 2 stages, the first stage being an impregnation and the second a cooking stage. The impregnation liquor can be re-used for the next cook after bringing it up to strength.

PROCESS FOR PRODUCING CELLULOSE POWDERS. 10 May 61, 7p.
Order from OTS or SLA $1.10 62-14273

Trans. of Austrian patent 193,396, by Zellstoffabrik Waldhof in Mannheim-Waldhof, Germany, appl. 26 Jan 56, beginning of pat. 15 Feb 57, issued 25 Nov 57 (priority claimed: in Germany, 21 Apr 55).

DESCRIPTORS: Production, *Cellulose, Dehydrated substances, Powders, Wood pulp, Processing.

This process for producing cellulose powder from cellulosic raw materials is characterized in that the raw material is digested chemically, and thereupon from the resulting pulp, in the form of a suspension, portions containing fibers of a length below 0.2mm (preferably below 0.1 mm) are separated and converted to cellulose powders by dehydration, drying and pulping.

Bellmann, H. and Groenau, H. Broese van.
THE BOLIDEN SALTS, A NOVEL WOOD PRESERVATIVE ON THE GERMAN MARKET. [1962] 20p. 28 refs.
Order from SLA $1.60 63-10164

Trans. of Holz-Zentralblatt (West Germany) 1961, v. 87, no. 32, p. 495-496.

DESCRIPTORS: *Wood, *Preservation, *Salts, Protective coverings, Telephone poles, Prefabricated buildings, Toxicity.

Blokhuis, G.
THE QUALITY OF INTAGLIO PRINT PICTURES: A METHOD FOR THEIR EVALUATION. [1962] 9p. (figs. omitted).
Order from SLA $1.10 62-20250

Trans. of der Druckspiegel (West Germany) 1961, v. 16, no. 10, p. 636-641.

DESCRIPTORS: *Printing, *Paper, Surface properties, Ink, *Colors, Lithography.

Brecht, W. and Raderer, P.
THE CAUSE OF CURLING IN PAPERS. Nov 62, 6p. (figs. omitted) 5 refs.
Order from SLA $1.10 62-20453

Trans. of Wochenblatt für Papierfabrikation (West Germany) 1962, v. 90, p. 373-377.

DESCRIPTORS: *Paper, Driers (Apparatus), Processing, Automation.

A brief outline is first given of present knowledge of the causes for the tendency to curl and for the curling of papers. New studies have dealt with an answer to the problem of why paper curls which has dried unevenly rapidly on both sides, and why such curvature always occurs in concave fashion towards the side which dried last. When a study was made of the relationships between partial restriction on shrinkage, shrinkage and the drying force in the paper, the conclusion was drawn that in papers which were dried to a certain degree of final shrinkage whilst subjected to different restrictions on shrinkage, it is possible for differential drying stresses to form. Based on this observation a theory has been developed concerning curling due to non-uniform drying of paper and from this recommendations have been derived for practical paper production. (Author)

Jayme, G. and Fengel, D.
ELECTRON MICROSCOPE PHOTOGRAPHS OF THE SURFACES OF SEMI-CHEMICAL SOFT WOOD PULP FIBRES. Nov 62, 7p. (figs. omitted) 13 refs.
Order from SLA $1.10 63-10060

Trans. of das Papier (West Germany) 1962, v. 16, no. 4, p. 125-130.
Another trans. is available from SLA $1.10 as 62-20469 [1962] 10p.

DESCRIPTORS: *Wood pulp fibers, Surfaces, Photographic analysis, Electron microscopes, *Cellulose chemistry.

In contrast with pulp fibres the electron microscope pictures taken of replicas of unbleached softwood semi-chemical pulp fibres show surfaces which are more or less extensively blurred by deposited lignin and hemicelluloses. The swelling of the fibre walls during the course of processing involves loss of substance and leads to wrinkling of the dried fibre surface. Since the wood texture after partial dissolution of its incrusting substances undergoes mechanical defibrillation a number of fibrillar bundles, lamellae and even entire sections of the fibre wall may be torn from the fibre. There is evidence that a number of these stripped off lamellae attach themselves to their former neighbouring fibres or are present loosely as "fines" in the moist semi-chemical pulp; with subsequent drying of the fibres in the sheet formed these contribute to the bonding. The texture of the individual fibre wall layers is made apparent with bleached semi-chemical pulp fibres since the microfibrils have now become visible. (Author)

Loras, V.
CHANGES IN WHITENESS AND OPACITY OF PAPER BY ADDITION OF DYES AND OPTICAL BRIGHTENERS. [1962] 15p. [tables omitted] 15 refs.
Order from SLA $1.60 63-10177

Trans. of Paperi ja Puu (Finland) 1961, v. 43, no. 4, p. 169-175, 179-180.
Another trans. is available from SLA $1.60 as 61-18800, 18 July 61, 16p. (figs. table omitted).

DESCRIPTORS: *Paper, *Dyes, Optics, Brightness, Colors, Additives, Light, Absorption.

For abstract see Technical Translations 6: 776, 1961.

Petroff, G. and Normand, D.
THE RELATIONSHIP BETWEEN THE MORPHOLOGIC FEATURES OF THE FIBRES OF A FEW TROPICAL HARDWOODS AND THEIR PAPERMAKING PROPERTIES. [1962] 20p. (figs. omitted) 17 refs.
Order from SLA $1.60 63-10530

Trans. of Ass[ociation] Technique de l'Industrie Papetiere. Bull[etin] (France) 1961, no. 5, p. 353-371.

DESCRIPTORS: Wood, Wood pulp, *Wood pulp fibers, *Paper industry, Tropical regions, Statistical functions.

Poschmann, Franz.
DEFOAMING AGENTS IN THE PAPER INDUSTRY. 14 Sep 62, 12p. (figs. refs. omitted) 3 refs.
Order from SLA $1.60 62-20005

Trans. das Papier (West Germany) 1961, v. 15, no. 7, p. 295-301.

DESCRIPTORS: *Paper industry, Foams, *Foaming inhibitors, Surface-active substances.

Skalicky, C. and Vondrakova, M.
THE PHYSICAL CHEMISTRY OF THE PARCHMENTISATION PROCESS. [1962] 9p. (figs. omitted) 9 refs.
Order from SLA $1.10 62-20467

Trans. of Papir a Cellulosa (Czechoslovakia) 1957 [v. 12] no. 9, p. 194-198.

DESCRIPTORS: *Paper, *Cellulose, *Wood pulp, Physical chemistry, *Sheets, Processing.

The greatest change, which occurs during the parchmentising of pulp is swelling, together with a change of the original structure of native pulp. The structure of parchment corresponds to the structure of beaten pulp. Parchment has therefore a structure conforming to wet beaten paper, the properties of which it brings to mind, and further with cellophane, viscose fibre, cuprammonium fibres and similar. When parchment is made a reconstruction of the structure of the pulp takes place, without it reaching dissolution. The process of parchmentisation reminds one in this connection of mercerisation. The dissolution of the pulp and its disintegration occur during the parchmentising processes to a relatively small extent. (Author)

Szwarcsztajn, E., Surewicz, W. and others.
STUDY OF THE SUITABILITY OF SAWDUST FOR THE PRODUCTION OF HIGH-YIELD AND SEMI-CHEMICAL PULPS. [1962] 16p. (figs. omitted) 13 refs.
Order from SLA $1.60 62-20468

Trans. of Przeglad Papierniczy (Poland) 1962, v. 18, no. 2(217) p. 33-38.

DESCRIPTORS: *Sulfate pulp, Industrial production, Wastes (Industrial), Processing, *Paper industry.

MATHEMATICS

Babkin, B. N.
ON THE THEORY OF S. A. CHAPLYGIN ON DIFFERENTIAL INEQUALITIES. May 60 [13]p. 8 refs.
Order from OTS or SLA $1.60 62-20255

Trans. of Matematicheskii Sbornik (USSR) 1958, v. 46(88) no. 4, p. 389-398.

DESCRIPTORS: *Inequalities, Differential equations, Functions, Theory.

Babkin constructs an extention of Chaplygin's theorem about differential inequalities by tightening the hypotheses on the class of functions which are to satisfy the differential inequality. (Author)

Faddeeva, V. N. and Terent'ev, N. M.
TABLES OF VALUES OF THE PROBABILITY INTEGRAL [THE FUNCTION $w(z) = e^{-z^2}\left(1 + \frac{2i}{\sqrt{\pi}}\int_0^z e^{t^2}\,dt\right)$] OF COMPLEX ARGUMENT. Mathematical Tables, Issue 3. [1961] 32p. 16 refs. MDF F/101.
Order from OTS or SLA $3.60 62-19864

Partial trans. of mono. [Tablitsy Znachenii Funktsii... ot Kompleksnogo Argumenta] Moscow, 1954 [268p.]. Another trans. is available from OTS or SLA $4.60 as 61-10763 [1961] [46]p; complete trans. of mono. is available from PP $15.00 [1961] 285p.

DESCRIPTORS: *Probability, *Integrals, *Functions, *Tables, Series, Continued fractions.

Kerimov, M. K.
ON TWO-DIMENSION DISCONTINUOUS PROBLEMS OF THE CALCULUS OF VARIATIONS, tr. by Donald C. Rich. 19 Sep 62 [15]p. 8 refs. [AMC] (Redstone) Trans- nr 33-62.
Order from OTS or SLA $1.60 62-33269

Trans. of [Akademiya Nauk Gruzinskoi SSR, Tiflis]. Matematicheskii Institut. Trudy, 1951, v. 18, p. 210-219.

DESCRIPTORS: *Calculus of variations.

Petrov, P. I.
INVARIANTS AND CLASSIFICATION OF QUADRATIC DIFFERENTIAL FORMS IN FOUR VARIABLES (Invarianty i Klassifikatsiya Differentsial'nykh Kvadratichnykh Form ot Chetyrekh Peremennykh). Feb 62 [37]p. 15 refs. RTS 1981.
Order from OTS or SLA $3.60 62-24291

Trans. of A[kademiya] N[auk] SSSR. Izv[estiya]. Ser[iya] Mat[ematicheskaya] 1959, v. 23 [no. 3] p. 387-420.

DESCRIPTORS: *Differential geometry, *Algebra, *Algebraic topology, Tensor analysis.

The author constructs in a finite form the simplest basis of a complete system of differential invariants for Riemannian manifolds V_4, metrized by a non-singular quadratic differential form $ds^2 = g_{ij}(x)dx^i dx^j$ of signature $s = 4, 0, -2$. Also, by means of the arithmetic invariants of the irreducible parts of the curvature tensor R_{hijk} of the fundamental tensor g_{ij}, a classification is given of the actual 4-dimensional Riemannian spaces. By a process of specialisation the invariants and a classification of plane conformal and Einsteinian 4-dimensional spaces are thus obtained for any of the possible values of the signature s. (Author)

Vekua, N. P.
ON A HILBERT PROBLEM WITH DISCONTINUOUS COEFFICIENTS AND ITS APPLICATION TO SINGULAR INTEGRAL EQUATIONS. [1959] 6p. MDF V-130.
Order from OTS $0.50 62-11573

Trans. from [Akademiya Nauk Gruzinskoi SSR] Tiflis. Mat[ematicheskii] Inst[itut]. Trudy, 1951, v. 18.

DESCRIPTORS: *Integral equations, *Functional analysis, Polynomials.

Zakrevskii, A. D.
VISUAL-MATRIX METHOD FOR THE MINIMIZATION OF BOOLEAN FUNCTIONS. [1960] 8p. 20 refs. MDF Z-127.
Order from OTS $0.50 62-11401

Trans. of #Avto[matika] i Tele[mekhanika] (USSR) 1960, v. 21, no. 3, p. 369-373.

DESCRIPTORS: Applied mathematics, *Matrix algebra, *Special functions, Algebra.

A semi-intuitive method is proposed for the minimization of Boolean functions, based on the use of certain properties of the visual perception of information. The method is applicable to the minimization of arbitrary Boolean functions with 10 to 12 variables and is particularly effective in the minimization of not completely determined functions. (Author)

Zhuravlev, Yu. I.
ON VARIOUS CONCEPTS OF THE MINIMALITY OF DISJUNCTIVE NORMAL FORMS. [1960] 3p. 3 refs. MDF Z-133.
Order from OTS $0.50 62-11399

Trans. of Sibir[skii] Mate[maticheskii] Zh[urnal] (USSR) 1960, v. 1, no. 4, p. 609-610.

DESCRIPTORS: *Mathematical logic, Theory, *Special functions, Algebra.

Computing Devices

CYBERNETICS AND CONTROL THEORY. 14 Mar 63 [14]p. 10 refs. JPRS: 18127.
Order from OTS $0.50 63-21323

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 6, p. 1300-1305.

DESCRIPTORS: *Cybernetics, *Control systems, *Automation, Memory devices, Coding, Algorithms, *Computers, Synthesis, Tracking.

Contents:
On the inversion of finite automata, by V. I. Levenshtein
Synthesis of a class of computers, by M. V. Rybashov.

PRINCIPLES OF THE DESIGN OF SELF-LEARNING SYSTEMS. 18 Mar 63 [187]p. 55 refs. JPRS: 18181.
Order from OTS $3.00 63-21344

Trans. of mono. Printsipy Postroeniya Samoobuchayushchiksya Sistem, Kiev, 1962, 118p.

DESCRIPTORS: Design, *Digital computers, Computers, *Algorithms, *Artificial intelligence, Geometric forms, Configurations, *Pattern recognition, Simulation, Evolution, *Programming (Computers), Computer logic, Adaptive control systems, Automatic, Control, Learning, *Cybernetics.

Contents:
Foreword
Algorithm for teaching a machine to recognize the simplest geometrical figures, by V. M. Glushkov and others
Algorithm for discerning sentence meaning, by B. V. Glushkov and others
Teaching the recognition of configurations by means of formal indices, by V. I. Varshavskii and T. N. Semyonova
Modeling of natural selection in a computer, by A. A. Letichevskii and A. A. Dorodnitsyna
A problem of dynamic programming, by Yu. Yu. Finkel'shtein
Some mathematical problems in the design of a digital logical computer, by A. A. Stognii
A general purpose installation for the investigation of image recognition algorithms, by V. M. Glushkov and others
Some categories of self-adjusting systems of automatic control, by A. I. Kukhtenko
Inductive and deductive methods of cognition as a basis for building two principal types of learning systems, by A. G. Ivakhnenko
Self-learning as one of the basic steps in the design of self-adjusting systems, by P. I. Chinaev
Some questions on the teaching of automata, by A. A. Lyapunov.

Aizerman, M. A.
DIGITAL COMPUTER RECOGNITION OF VISUAL IMAGES: THEY TEACH A MACHINE TO RECOGNIZE VISUAL IMAGES. 14 Mar 63 [15]p. JPRS: 18126.
Order from OTS $0.50 63-21322

Trans. of Nauka i Zhizn' (USSR) 1962 [v. 29] no. 12, p. 34-39.

DESCRIPTORS: *Digital computers, *Optical images, *Identification systems, Algorithms, Programming (Computers).

Avrukh, B. M., Vasil'ev, A. M. and others, eds.
READING DEVICES. Collection of papers presented at the Conference on Processing Information, Machine Translation, and Automatic Reading of Text Matter, Moscow, Jan 61; Foreign Developments in Machine Translation and Information Processing no. 113. 13 Mar 63 [434]p. 123 refs. JPRS: 18119.
Order from OTS $6.00 63-21318

Trans. of mono. Chitayushchie Ustroistva, Moscow, 1962, 187p.

DESCRIPTORS: *Reading machines, Automatic, *Pattern recognition, Reliability, Reading, Printing, Numbers, Television, Integrals, Numerical methods and procedures, Printed tapes, Digital computers, Computer logic, Data processing systems.

Contents:
Preface
Basic methods for automatic reading and recognition of text matter, by M. L. Avrukh
The automatic distinction of characters by elements of their form, by M. O. Gliklikh
Automatic reading of characters in a printed line, by I. A. Eshchenko and A. D. Krisilov
The use of the contours of symbols in automatic character recognition, by A. A. Burlak
An approach to the problem of constructing a scheme for synthesis of a reading apparatus, by A. D. Krisilov
An automatic reader based on analysis of directions, by V. A. Kovalevskii and A. G. Semenovskii
Application of a television set in character reading, by V. G. Komandrovskii
A general-purpose automatic machine for reading printed text matter, by V. S. Pereverzev-Orlov and V. G. Polyakov
A general-purpose automatic machine for reading printed text matter, by V. I. Polyakov
Integral methods for character recognition, by V. P. Romanov
On a system for an automatic reader, by V. I. Zaitsev and A. A. Savin
A device for recognizing characters by means of the fragment method, by M. L. Avrukh
Recognition of typewritten numerals by the probe method, by V. A. Kovalevskii and V. K. Petrusenko
An automatic device for reading printed and handwritten numbers, by Yu. T. Mitulinskii
Some problems in improving the reliability of automatic reading of text matter
A photo-optical electronic device which reads graphical functions from the tapes of recording instruments, by A. I. Petrenko
The possibilities for application of electrographic methods of printing in the information service, by V. A. Kal'manson.

Karachantsava, N. Ya. and Lubennikava, I. L.
SEMICONDUCTOR DEVICES IN COMPUTER ENGINEERING. 2 Feb 62 [38]p. 11 refs. JPRS: 12261.
Order from OTS $1.00 62-11134

Trans. of Akademiya Navuk BSSR, Minsk. Vestsi. [Seriya Fizika-Tekhnichnykh Navuk] 1961, no. 1, p. 59-74.

DESCRIPTORS: *Digital computers, Computers, *Semiconductor devices, Computer storage devices, Switching circuits, Trigger circuits, Punched tape, Triodes, Design, Input-output devices.

Yushchenko, K. L.
ADDRESS LANGUAGE IN COMPUTER PROGRAMMING: ON THE COMPLETENESS OF ADDRESS LANGUAGE MEANS. 4 Mar 63 [6]p. 3 refs. JPRS: 17911.
Order from OTS $0.50 63-21239

Trans. of Akademiya Nauk URSR, Kiev. Dopovidi, 1962, no. 10, p. 1305-1307.

DESCRIPTORS: *Programming languages, *Programming (Computers), *Algorithms, Computer logic.

MECHANICS

Bachmann, Heinrich.
CONTRIBUTION ON THE MEASUREMENT OF AIR FLOW. [1962] [63]p. 14 refs.
Order from SLA $6.60 62-16523

Trans. of mono. (dissertation) submitted to Darmstadt U., 1911, pub. Heidelberg, 1912.

DESCRIPTORS: *Gas flow, Compressed air, Measurement, Flowmeters, *Fluid mechanics, Nozzles, Tests.

Dolidze, D. E.
UNSTEADY MOTION OF A VISCOUS FLUID CREATED BY A ROTATING DISC. [1961] [11]p. 3 refs. MDF D-113.
Order from OTS or SLA $1.60 62-15870

Trans. of Prikl[adnaya] Mate[matika i] Mekh[anika] (USSR) 1954, v. 18, no. 3, p. 371-378.

DESCRIPTORS: *Fluid flow, Viscosity, *Bodies of revolution, Disks, *Equations of motion, Partial differential equations, Integral equations, Mechanics.

Morgunov, V. K
A NEW APPARATUS FOR THE STUDY OF THE KINEMATICS OF MOVING OBJECTS. [1962] 13p. 4 refs.
Order from OTS or SLA $1.60 62-18646

Trans. of Akademiya Nauk SSSR. Sibirskoe Otdelenie. Izvestiya, 1961, no. 12, p. 30-36.

DESCRIPTORS: *Mechanics, *Motion-picture photography, Motion picture cameras, Motion pictures, Design, Photography.

The apparatus makes it possible to obtain on one photograph of large dimensions successive images of the moving object, taken automatically at equal time intervals. The large dimensions of the photograph, and also the fact that the successive images of the object are fixed on a single photograph, greatly improve the measurement accuracy compared with the use of cinematography for this purpose. If constructed in a suitable form the apparatus can be applied in different areas of scientific investigation work, as for example in hydrology and hydraulics, for testing the motion characteristics of ships, in aviation etc... as will as under laboratory conditions.

Nikol'skii, A. A.
ON THE REACTION FORCE OF THE 'SECOND' KIND OF HYDRODYNAMIC MOTION ON A PLANE BODY: DYNAMICS OF PLANE SEPARATION FLOWS. [1961] 6p. 2 refs. MDF N-103.
Order from OTS $0.50 62-11641

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 116, no. 3, p. 365-368.

DESCRIPTORS: *Hydrodynamics, Fluid dynamics, *Fluid flow, Separation, Equations of motion, Differential equations.

Nikol'skii, A. A.
ON THE 'SECOND' FORM OF IDEAL FLUID MOTION AROUND A BODY: INVESTIGATION OF SEPARATING VORTICAL FLOWS. [1961] 6p. 2 refs. MDF N-104.
Order from OTS $0.50 62-11625

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 116, no. 2, p. 193-196.

DESCRIPTORS: *Wedges, *Fluid flow, Vortices, Fluid dynamics, Separation, Equations of motion, Differential equations, Integrals.

Sedov, L. I.
PLANAR PROBLEMS IN HYDRODYNAMICS AND AERODYNAMICS [TABLE OF CONTENTS AND SELECTED EXCERPTS]. [1962] 30p. 1 ref.
Order from OTS or SLA $2.60 62-18321

Trans. of mono. Planar Problems in Hydrodynamics and Aerodynamics, Moscow/Leningrad, 1950, p. 1-10 and p. 355-367.

DESCRIPTORS: *Hydrodynamics, *Aerodynamic characteristics, *Fluid dynamic properties, Gas flow, Turbulence, Airfoils, Mechanics, Impact shock, Equations of motion.

Contents:
Foreword
Introduction
Examples of exact solutions for steady rotational flow of a gas.

Tsurkov, I. S.
ON ELASTO-PLASTIC EQUILIBRIUM OF SHELLS OF REVOLUTION FOR SMALL AXISYMMETRIC DEFORMATIONS. [1961] 7p. 2 refs. MDF T-126.
Order from OTS $0.50 62-11214

Trans. of A[kademiya] N[auk] SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya, 1956, no. 11, p. 106-110.

DESCRIPTORS: *Structural shells, *Bodies of revolution, *Deformation, *Elasticity, Plasticity, Numerical analysis.

Vypov, G. P.
SOLUTION OF NON-LINEAR EQUATIONS FOR THE MOVEMENT OF VISCOUS INCOMPRESSIBLE LIQUID IN THE SPACE BETWEEN TWO CLOSELY SITUATED SURFACES. [1962] 11p. (figs. formulae omitted) 2 refs.
Order from OTS or SLA $1.60 62-18802

Trans. of Zhur[nal] Prikl[adnoi] Mekh[aniki i] Tekh[nicheskoi] Fiz[iki] (USSR) 1960, v. 1 [no. 3] p. 75-82.

DESCRIPTORS: *Fluid flow, Viscosity, Liquids, Fluid mechanics, *Equations of motion, *Nonlinear differential equations, Numerical analysis.

Wisniewski, Stanislaw.
NON-LINEAR PROBLEM OF BENDING OF A SHELL SHAPED LIKE A TRUNCATED CONE AND COMPRESSED BY FORCES UNIFORMLY DISTRIBUTED ALONG THE EDGES. [1962] 24p. 5 refs.
Order from SLA $2.60 62-20428

Trans. of Archiwum Budowy Maszyn (Poland) 1959, v. 6, no. 4, p. 493-520.

DESCRIPTORS: *Elastic shells, *Conical bodies, *Deflection, Compressive properties, Stresses, Numerical analysis, Nonlinear differential equations.

This paper presents a solution of the problem of large deflections in a shell which is shaped like a truncated right circular cone. The shell is compressed by forces uniformly distributed along the edges and acting in parallel to the axis of the cone. We limited ourselves to the examination of cones in which the angles between the generatrices and the larger bases are small. Moreover, it was assumed that the edges of the cone are freely supported. By assuming that the deformation of the shell may be represented by the displacement w_0 (measured in a radial direction) and by the angle of rotation (displacement) of o-tangent to the internal surface w, the author obtains a system of two ordinary differential equations of the second order, which are non-linear with respect to the function w_0 and w. The author solves this system by the approximation method, which is based on a selection of constants. In conclusion, the author presents two numerical examples for shells with ratios of base radii equal to 2 and for a shell with a very small top opening. He compares his results with the previous studies devoted to the treatment of this problem. (Author)

NEWS OF THE ACADEMY OF SCIENCES OF THE USSR, OFFICE OF TECHNICAL SCIENCES, MECHANICS AND MACHINE BUILDING, 1961, NO. 6: SELECTED ARTICLES. 15 Jan 62 [41]p. 12 refs. FTD-TT-61-159; AD-271 854.
Order from OTS or SLA $4.60 62-19255

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Mekhanika i Mashinostroenie, [1960] no. 6, p. 24-37 and 105-108.

DESCRIPTORS: *Supersonic wind tunnels, Nozzles, Air, Gas flow, Humidity, Condensation, Cooling.

Contents:
The flow of moist air in wind tunnel nozzles, by A. S. Danilov
Motion under the action of a central force, by A. Ripianu.

Bulakh, B. M.
ON AN UNSYMMETRIC HYPERSONIC FLOW ABOUT A CIRCULAR CONE (O Nesimmetrichnom Giperzvukovom Obtekanii Krugovogo Konusa). Prepared in response to AID Work Assignment no. 42, Task 1. 2 Jan 63 [9]p. 7 refs. AID rept. T-63-1.
Order from OTS or SLA $1.10 63-13738

Abstract trans. of #Prikladnaya Matematiki i Mekhaniki (USSR) 1962, v. 26, no. 5, p. 973-976.

DESCRIPTORSL Fluid flow, *Hypersonic flow, Vortices, Aerodynamic configurations, Cones, Vector analysis.

A nonviscous hypersonic flow about a circular cone at an angle of attack α was considered by A. L. Gonor (Akad. Nauk SSSR. Oto. Tek. Nauk no. 7: 102-105, 1958; Available in translation from OTS or SLA as 62-24830), who sought a solution in the form of power series in $\varepsilon = (\gamma - 1) / (\gamma + 1)$ where γ is the adiabatic index) and obtained the first terms of the expansions in parametrically closed form. In the present work, a "vortex layer", in which the solution cannot be approximated by a partial sum of a series in powers of ε, is shown to exist near the cone surface, by reason of which it is not possible to determine the velocity components at the cone surface using A, L. Gonor's theory. A method, taking Gonor's solution as a point of departure, for obtaining the velocity components at the cone surface with an accuracy $O(\varepsilon)$ inclusively, is demonstrated. (Author)

Bulygina, E. V., Polyakov, M. B., and Shcherbak, Ya. S.
A THIN AIRFOIL WITH A MINIMUM AVERAGE COEFFICIENT OF HEAT TRANSFER FOR A GIVEN LIFT (Profil' Krylas Minimal'nym Srednim Koeffitsientom Teplootdachi pri Zadannoi Pod'emnoi Sile) tr. by Joy B. Gazley. Nov 62 [18]p. 5 refs. Rand Memo. RM-3410-PR.
Order from OTS or SLA $1.60 63-13620

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1961, no. 2, p. 17-25.

DESCRIPTORS: Aerodynamic configurations, *Airfoils, Thickness, Lift, *Heat transfer, Laminar boundary layer, Turbulent boundary layer.

Kutateladze, S. S. and Leont'ev, A. I.
TURBULENT FRICTION ON A FLAT PLATE IN THE SUPERSONIC FLOW OF A GAS (Turbulentnoe Trenie na Ploskoi Plastine V Sverkhzvukom Potokoe Gaza) tr. by Joy B. Gazley. Nov 62 [17]p. 20 refs. Rand Memo. RM-2698-PR.
Order from OTS or SLA $1.60 63-13623

Trans. of Zhurnal Prikladnoi Mekhaniki i Tekhnicheskoi Fiziki (USSR) 1960, no. 4, p. 43-48.

DESCRIPTORS: Gas flow, *Supersonic flow, Boundary layer, Turbulence, Friction, *Flat plate models, Heat transfer.

Nesterov, E. D.
AERODYNAMIC COMPRESSION OF A GAS STREAM. 4 Jan 63, 15p. 3 refs. FTD-TT-62-1555.
Order from OTS or SLA $1.60 63-15528

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1962, no. 1, p. 82-91.

DESCRIPTORS: *Gas flow, *Compressible flow, *Aerodynamics, Fluid dynamics.

Ratios of aerodynamic compression are derived for two cases: (a) a convergent channel and (b) a Laval nozzle. The difference between these two cases is that in a divergent channel the separation zone is in communication with the atmosphere, and in a Laval nozzle it is a closed region. This gives unique conditions for solution of the problem. (Author)

Poruchikov, V. B.
THE LEADING-EDGE TEMPERATURE OF A FLAT PLATE SUBJECTED TO AERODYNAMIC HEATING. 18 Oct 62 [8]p. 2 refs. FTD-TT-62-1320.
Order from OTS or SLA $1.10 63-13912

Unedited rough draft trans. of Moscow U. Vestnik. [Seriya 1: Matematika, Mekhanika] (USSR) 1962 [v. 17] no. 1, p. 47-52.

DESCRIPTORS: Compressible flow, *Aerodynamic heating, Aerodynamic configurations, *Flat plate models, Boundary layer, Temperature.

Shchepkina, V. M.
THE EFFECT OF VEHICLE FLIGHT VELOCITY ON INERTIAL NAVIGATION SYSTEM ERROR (O Vliyanii Skorosti Poleta Letatel'nogo Apparata na Oshibki Inertsial'noi Sistemy Navigatsii). [1961] [27]p. (foreign text included) 1 ref.
Order from OTS or SLA $2.60 62-14264

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1960, no. 3, p. 96-105.
Another trans. is available from OTS $1.25 in 60-31850, JPRS-6099, 17 Oct 60, 40p.

DESCRIPTORS: *Hypersonic flight, *Inertial navigation, Instrumentation, Errors, Stabilization, Hypersonics, *Flight speed.

In hypersonic flights the angular velocity of the craft relative to the center of the Earth attains very large values and can exceed the angular velocity of the Earth's diurnal rotation by a factor of ten to twelve. It is shown in the present article, in the example of a particular inertial navigation system, that this angular velocity gives rise to a substantial change in the errors of the inertial navigation system and causes cross coupling between the lateral and longitudinal motions of the craft. (Author)

Sprenger, Herbert.
ON THERMAL EFFECTS IN RESONANCE TUBES (Über Thermische Effekte in Resonanzrohre). [1961] [24]p. 11 refs. NASA N-35286X.
Order from OTS or SLA $2.60 60-17352

Trans. of [Eidgenössische Technische Hochschule, Zhurich]. Inst[itut für Aerodynamik]. Mitteilungen (Switzerland) 1954, no. 21, p. 18-35.

DESCRIPTORS: *Heat transfer, Fluid flow, *Resonators, Pipes, Cavity resonators, *Jets, Gases, Thermodynamics, Acoustics, Pressure.

Thermal, acoustical, and pressure effects were observed in cylindrical tubes excited to resonance by a coaxial impinging gas jet. Temperatures up to 438°C were measured on the resonating tube walls, and temperatures above 1000°C were produced when suspended dust particles were present in the oscillating gas column. Maximum resonance occurred when resonating tube and gas jet nozzle diameters were approximately equal. Optimum resonating tube length-to-diameter ratio was found to be 34. The intensity of resonance produced by a subcritical gas jet nozzle pressure ratio was increased by the addition of turbulence-inducing threads in the nozzle exit. Resonating flow was simulated with a two-dimensional free-surface water-analogy model. (NASA abstract)

Zhigulev, V. N., Romishevskii, E. A., and Vertushkin, V. K.
ON THE ROLE OF RADIATION IN MODERN PROBLEMS IN GAS DYNAMICS (O Roli Izlucheniya v Sovremennykh Voprosakh Gazovoi Dinamiki). [1962] 45p. 20 refs.
Order from OTS or SLA $4.60 62-20138

Trans. of Inzhenernyi Zhurnal (USSR) 1961, v. 1, no. 1, p. 60-83.

DESCRIPTORS: *Aerodynamics, Fluid dynamics, *Gas flow, Temperature, Thermal radiation, Blackbody radiation, *Radiation effects, Hypersonic flow, *Aerodynamic configurations, Aerodynamic heating, Recombination reactions, Equations of motion, Integral equations, Differential equations.

Hydrodynamics, Hydraulics, and Hydrostatics

Bendegom, L. van.
SOME THOUGHTS ON RIVER MORPHOLOGY AND RIVER IMPROVEMENT (Eenige Beschouwingen over Riviermorphologie en Rivierverbetering) tr. by D. A. Sinclair. 1963, 28p. NRCC Technical trans. 1054.
Order from NRCC $1.50 NRCC C-4285

Trans. of de Ingenieur (Netherlands) 1947, v. 59, no. 4 p. B1-B11.

DESCRIPTORS: Rivers, *River currents, *Hydrodynamics, Netherlands, *Hydrostatics, Construction, Numerical analysis, *Sand, Motion, Navigation.

Kukhyanidze, I. I.
DESIGNING VELOCITY-DISTRIBUTING SCREENS (Proektirovanie Skorostno-Vyravnivayushchiskh Reshetok) tr. by June Stevens. July 61 [10]p. (foreign text included). Bureau of Reclamation Trans. 381.
Order from OTS or SLA $1.10 62-25129

Trans. of Gidrotekhnicheskoe Stroitel'stvo (USSR) 1960 [v. 30] no. 5, p. 38-39.

DESCRIPTORS: *Hydraulic systems, Hydraulic models, *Angle bars, Design, Sedimentation, Fluid flow, Velocity, Hydroelectric power systems

Lyapin, A. N.
THE ERODING CAPACITY OF FLOW WITH THE BED LOAD TRANSPORTATION IN THE FORM OF RIDGES (Razmyvayushchaya Sposobnost' Potoka pri Gryadovom Peremeshchenii Nanosov) tr. by Ivan Mittin. 1962 [64]p. 20 refs.
Order from OTS or SLA $6.60 62-32147

Trans. of Gosudarstvennyi Gidrologicheskii Institut. Trudy (USSR) 1959, v. 69, p. 43-69.

DESCRIPTORS: Hydrology, *Fluid flow, Fluid mechanics, *Erosion, Potential theory, Tables, Turbulence, *Hydraulic research.

METALLURGY

PROBLEMS IN METALLURGY AND PHYSICS OF METALS, 1962, VOL. 7: [SELECTED ARTICLES]. 12 Dec 62 [163]p. 131 refs. FTD-TT-62-1290.
Order from OTS or SLA $12.00 63-15345

Unedited rough draft trans. of Problemy Metallovedeniya i Fiziki Metallov (USSR) 1962, v. 7, p. 34-92, 156-174, 231-245, 281-306.

DESCRIPTORS: *Metallurgy, *Nickel alloys, Heat treatment, Elasticity, *Steel, Brittleness, Tempering, Plasticity, Failure (Mechanics), Fractography, Fracture (Mechanics), *Austenite, *Martensite, Transition temperatures, Transformations.

Contents:
The nature of changes in the modulus of elasticity and in the characteristic temperature during heat treatment of solid solutions on a nickel base, by V. A. Il'ina and others
Brittleness in steel in low-temperature tempering, by V. I. Sarrak and R. I. Entin
An electron microscope fractographic study of the micromechanism of the failure process in steel and iron, by L. G. Orlov and L. M. Utevskii
Investigating austenitic transformation in the middle region directly at the transformation temperatures, by L. I. Kogan and R. I. Entin
Some features of reverse martensitic transformation, by Ya. M. Golovchiner.

SOVIET ABSTRACTS ON POWDER METALLURGY. 18 Mar 63 [31]p. JPRS: 18182.
Order from OTS $0.75 63-21345

Trans. of selected abstracts from Referativnyi Zhurnal. Metallurgiya (USSR) 1962, nos. 2, 4-5, 7-12.

DESCRIPTORS: *Abstracts, *Powder metallurgy, *Powder metals, *Powder alloys, *Cermets, Porous metals, Sintering, X-ray diffraction analysis, Piezoelectric crystals, Heat resistant alloys, Polarization, Mechanical properties, Industrial production.

SOVIET EXPERIMENTAL ELECTROLYTIC AND AUTOCLAVE PRODUCTION OF RHENIUM POWDER. 5 Mar 63 [33]p. 15 refs. JPRS: 17937
Order from OTS $1.00 63-21243

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Tsvetnaya Metallurgiya (USSR) 1961 [v. 4] no. 4, p. 112-120 and 1962 [v. 5] no. 1, p. 111-114.

DESCRIPTORS: *Powder metals, *Rhenium, Production, Purification, *Pressure vessels, Potassium compounds, Rhenium compounds, Oxides, Reduction, *Electrochemistry, Electrolysis.

SOVIET RESEARCH IN POWDER METAL MATERIALS. 28 Feb 63 [29]p. JPRS: 17887.
Order from OTS $0.75 63-21231

Trans. of mono. Metallokeramicheskie Materialy i Metody ikh Issledovaniya: Informatsionnye Materialy (Powder Metal Materials and Methods of Investigating Them: Reference Material) Kiev, 1959, p. 11-16, 25-26, 45, 50-55.

DESCRIPTORS: Industrial production, *Powder metals, *Borides, *Chromium compounds, Sintering, Vaporization, Surface tension, *Titanium alloys, *Carbides, Molybdenum, *Nitrides, *Titanium compounds, Wastes (Industrial), *Rods, Refractory materials, Heat-resistant materials, Alloys, *Powder metallurgy.

Contents:
Sintering chromium boride, by P. S. Kislyi and V. S. Neshpor
Equipment for determining the kinetics of vaporization and the vapor tension of metal powders, by I. M. Fedorchenko and Yu. B. Ermolovich
Methods of preparing alloys of titanium carbide with molybdenum, by V. N. Eremenko and T. Ya. Velikanova
Production of titanium nitride from sponge titanium, by T. S. Verkhoglyadova
A new method of manufacturing rods made of refractory compounds, by V. V. Pen'kovskii and G. V. Samsonov
Production of nitrides of refractory metals, by G. M. Samsonov and others.

STEEL: COLLECTION OF ARTICLES: [SELECTED PARTS]. 8 Aug 62 [57]p. (figs. omitted) 57 refs. FTD-TT-62-626; AD-284 158.
Order from OTS or SLA $5.60 62-33398

Unedited rough draft trans. of #Stal': Sbornik Statei, Moscow, 1961, p. 395-411, 424-435, 441-446, 455-461 and 487-489.
##Another trans. of p. 455-461 is available from HB $3.75, Aug 62, 1300 words.

DESCRIPTORS: *Steel, *Stainless steel, *Nickel alloys, Hardening, Aging, Heat treatment, *Chromium alloys, Carbon alloys, *Iron alloys, Tensile properties, Impact shock, Corrosive gases, Hydrogen, Molybdenum alloys, Heat resistant alloys, High temperature research, Deformation, Plasticity, Mechanical properties, Corrosion inhibition, *Titanium, *Aluminum.

Contents:
The influence of heat hardening on the mechanical properties and tendency to aging of low-carbon steel, by I. E. Brainin and N. V. Gubenko
Hydrogen corrosion of iron-chromium alloys at hydrogen pressures from 400-800 kg/cm^2 and a temperature of 600°, by Yu. I. Archakov and others
Corrosion-resistant nickel alloys, by E. V. Zotova
##The formation of nitride inclusions on heating of chromium-nickel alloys containing titanium and aluminum, by I. S. Chernyak and others
Plastic deformation and structure of E1726 steel, by M. P. Braun and others.

STUDY OF PROBLEMS ON SURFACE PHENOMENA IN METALS AND ALLOYS. 15 Mar 63 [38]p. 46 refs. JPRS: 18154.
Order from OTS $1.00 63-21333

Trans of #Fizika Metallov i Metallovedenie (USSR) 1962, v. 14, no. 5, p. 687-692, 745-749, 783-784.

DESCRIPTORS: Metals, Alloys, Surface properties, *Zinc, *Metal crystals, *Crystal lattice defects, Twinning (Crystallography), Microstructure, *Copper alloys, *Gold alloys, *Palladium alloys, Deformation, *Lead, Crystal structure, Energy.

Contents:
Investigation of dislocation structure in zinc crystals by the method of selective etching, by A. A. Predvoditelev and others
Microscopic study of the deformation of ordered alloys, by V. I. Syutkina and E. S. Yakovleva
Problem concerning the magnitude of the energy of packing defects in lead, by L. M. Butkevich and others.

Abranov, S. K.
INVESTIGATION OF SPRINGING DURING BENDING TO A LARGE RADIUS (Issledovanie Pruzhineniya pri Gibke po Bol'shomu Radiusu). Mar 61 [14]p. 11 refs. TIL/T. 5174; [DSIR NLL M. 3292].
Order from OTS or SLA $1.60 62-23521

Trans. of Inst[itut] Sel'skok[hozyaistvennogo] Mash[inostroenniya]. Trud[y] (USSR) 1957, v. 8, pt. 1, p. 247-262.

DESCRIPTORS: *Material forming, *Cold-working *Steel, Metal plates, Sheets, Deformation, *Metal-forming presses.

Aleksandrov, V. V.
INDUCTION HEATING AT 50 CPS OF HEAVY-SECTION PARTS. Jan 63, 2000 words.
Order from HB $4.80 HB-4149

Trans. of Metallovedenie i [Termicheskaya] Obrabotka Metallov (USSR) 1958, no. 2, p. 23-28.

DESCRIPTORS: *Steel tubing, Heat treatment, *Induction heating, Coils, Metal plates.

Araki, T., Yano, M. and Ohashi, H.
PROPERTIES OF VALVE STEELS MELTED IN THE CONSUMABLE-ELECTRODE VACUUM-ARC FURNACE. Jan 63, 1300 words.
Order from HB $4.80 HB-5792

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1411-1413.

DESCRIPTORS: *Vacuum furnaces, *Electric furnaces, Electrodes, *Valves, *Steel, Molybdenum alloys, Vanadium alloys, Titanium alloys, Tungsten alloys, Niobium alloys, Surface properties, Heat treatment, Stresses, Corrosion.

Avakyan, S. V. and Lashko, N. F.
INFLUENCE DE LA COMPOSITION DES ALLIAGES D'ALUMINIUM SUR LEUR TENDANCE À LA FISSURATION AU COURS DE LA SOUDURE AUTOGÈNE, tr. by Korganian. 24 Mar 62 [12]p. CEA Trans. no. R 1582 (text in French).
Order from OTS or SLA $1.60 62-25079

Trans. in French of Avtogennoe Delo (USSR) 1951 [v. 22] no. 12, p. 7-9.

DESCRIPTORS: *Aluminum, Microstructure, *Alloys, *Welding, Copper, Welds, Deformation

Bendryshev, O. L.
EFFECT OF SOME TECHNOLOGICAL AND DESIGN FACTORS ON THE MECHANICAL PROPERTIES OF WELDS IN HIGH-STRENGTH CONSTRUCTIONAL STEELS (Vliyanie Nekotorykh Tekhnologicheskikh i Konstruktivnykh Faktorov na Prochnost' Svarnogo Soedineniya Vysokoprochnoi Konstruktsionnoi Stali). Jan 63, 2500 words.
Order from HB $7.60 HB-4433

Trans. of Metallovedenie i [Termicheskaya] Obrabotka Metallov (USSR) 1958, no. 11, p. 51-56.

DESCRIPTORS: *Steel, *Arc welding, *Welded joints, Mechanical properties, Fracture (Mechanics), Stresses, Heat treatment, Penetration.

Dzugutov, M. Ya. and Stepanov, V. P.
NEW METHOD OF PRODUCING DISK FORGINGS FROM INGOTS BY UPSETTING. 20 Dec 62, 3p. AID rept. 62-205.
Order from OTS or SLA $1.10 63-15319

Abstract trans. of Kuznechno-Shtampovochnoe Proizvodstvo (USSR) 1962 [v. 4] no. 10, p. 10-14.

DESCRIPTORS: *Heat resistant alloys, *Steel, Material forming, *Forming, Disks, Castings.

Geller, W[erner].
FUNDAMENTALS OF MELT DEGASSING. [1962] [27]p.
Order from SLA $2.60 62-20211

Trans. of Giesserei, Tech[nische]-Wiss[enschaftliche] Beih[efte] (west Germany) 1950 [no. 2] p. 57-63. Another trans. is available from SLA mi$2.40, ph$3.30 as 59-20936, 13 May 55, 20p.

DESCRIPTORS: *Liquid metals, *Degasification, Model tests, Numerical analysis.

Gel'man, A. S., Mel'bard, S. N. and others.
THE ELECTRO-SLAG WELDING OF A HYDRAULIC TURBINE SHAFT WITH A WELDED SHELL. June 59 [15]p. 5 refs. BISI Trans. no. 1304; [DSIR] NLL M. 4581.
Order from OTS or SLA $1.60 62-24223

Trans. of Svarochnoe Proizvodstvo (USSR) 1958, no. 9, p. 26-32.

DESCRIPTORS: *Turbines, *Shafts, *Welding, Structural shells, *Electric welding, *Steel, Welded joints, Hydraulic systems, *Electroslag process.

Germanovich, I. N., Doroshkin, N. N. and Kabel'skii, I. M.
INFILTRATION OF POROUS METAL-POWDER PARTS AIDED BY ULTRASONIC VIBRATIONS. Jan 63, 1100 words.
Order from HB $3.60 HB-5847

Trans. of Poroshkovaya Metallurgiya (USSR) 1962, v. 2, no. 5, p. 84-88.

DESCRIPTORS: *Powder metals, Porous materials, Impregnation, *Ultrasonics, Vibrations, Powders.

Gol'dshtein, N. L.
ON THE PROBLEM OF THE REDUCIBILITY OF (BLAST-FURNACE) SINTER. Jan 63, 4400 words.
Order from HB $12.50 HB-5775

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 7, p. 37-45.

DESCRIPTORS: *Blast furnaces, *Sintering, Reduction (Chemistry), Minerals, *Iron compounds, Oxides, Fuel consumption.

Gupalo, Yu. D.
SOURCES D'ALIMENTATION POUR LA SOUDURE ÉLECTRIQUE SOUS SCORIE [Power Supply for Electric Slag Welding] tr. by I. Melnyck. 27 Mar 62 [18]p. 5 refs. CEA Trans. no. R 1523 (text in French).
Order from OTS or SLA $1.60 62-33736

Trans. in French of Avtomat[icheskaya] Svarka (USSR) 1958, v. 11, no. 8, p. 19-26.

DESCRIPTORS: *Electroslag process, *Welding, Electrical equipment, *Power supplies, Slags.

Nous avons étudié l'influence de la pente des caractéristiques extérieures des sources d'alimentation sur la stabilité du processus et sur la stabilité de la fusion des bords des pièces soudées. Nous montrons les avantages des transformateurs de soudure à caractéristiques extérieures raides. (Author)

Gurevich, S. M. and Didkovskii, V. P.
CERTAIN PROBLEMS IN TITANIUM ELECTROSLAG WELDING. [1962] [10]p. 10 refs.
Order from OTS or SLA $1.10 62-20145

Trans. of Avtom[aticheskaya] Svarka (USSR) 1957, v. 10 [no. 3] p. 85-91.
Another trans. is available from ATS $8.65 as ATS-06L33R [1959] 7p.

DESCRIPTORS: *Titanium, *Welding, *Welding fluxes, Slags, Exchange reactions, *Welds, *Electroslag process.

The conditions for producing quality welds in commercial titanium by the electroslag process have been investigated. It was found that it is necessary to use a non-oxidic flux and to apply supplementary argon shielding to the welding zone. It has been shown that there is a relationship between the physical properties of the welded joints and the linear energy consumed in the welding process. (Author)

Gürtler, W. and Landau, G.
CONTRIBUTIONS TO THE KNOWLEDGE OF THE COPPER-LEAD-SULFUR SYSTEM, REPT. NO. 133 [Beiträge zur Kenntnis des Systems Kupfer-Blei-Schwefel]. [1962] 43p.
Order from K-H $53.75 K-H 5241 a

Trans. of Metall und Erz (Germany) 1934, v. 31, no. 8, p. 169-179.
A partial trans. is available from SLA mi$1.80, ph$1.80 as 59-20109 [1946] [4]p.

DESCRIPTORS: Copper alloys, *Lead alloys, *Sulfur compounds.

Ischebeck, P., Heynert, G., and Beer, H.
INJECTION OF HEAVY OIL INTO BLAST FURNACE AT HIGH BLAST TEMPERATURES AND WITH FULLY BENEFICIATED BURDEN. Jan 63, 7900 words.
Order from HB $19.75 HB-5743

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 22, p. 1476-1485.

DESCRIPTORS: *Blast furnaces, Oils, *Fuel oil, Injection, Economics.

Karnov, M. Ya.
PROBLEMS CONNECTED WITH THE VIBRATIONAL WORKING OF METALS WITH RESTRICTION OF WIDTH. Jan 63, 1000 words.
Order from HB $3.80 HB-5462

Trans. of Kuznechno-Shtamp[ovochnoe] Proizvodstvo (USSR) 1961 [v. 3] no. 3, p. 16-18.
Another trans. is available from BISI as BISI-2528, Feb 62.

DESCRIPTORS: *Metals, *Steel, *Aluminum alloys, *Vibrators (Mechanical), Dies, Loading (Mechanics), Deformation, Mechanical properties, Hardness.

Klochko, M. A. and Medvedeva, Z. C.
USE OF PALLADIUM IN ELECTROLYTIC COATINGS. 23 Jan 46, 18p. (figs. tables refs. omitted).
Order from OTS or SLA $1.60 62-20273

Trans. of [Zhurnal Prikladnoi Khimii] (USSR) 1942, v. 15, no. 1/2, p. 25-46.
An abstract trans. is available from OTS or SLA $1.10 in 61-20333 [1961] 4p.

DESCRIPTORS: *Palladium, *Electroplating, Coatings, *Finishes, Palladium compounds.

Studies were made of the conditions for the securing of lustrous and dense Pd deposits from palladous chloride and chloro palladates of sodium, potassium and ammonium, as well as from the solutions of the complex Pd compounds containing the groups: NH_3, PO_4, NO_2 and Cn.

Knorr, W. and Ricken, H. G.
INVESTIGATIONS ON THE MEASUREMENT OF SOUND ATTENUATION AND ULTRASONIC DETERMINATION OF DEFECT SIZE (IN STEEL FORGINGS). Jan 63, 5300 words.
Order from HB $14.50 HB-5656

Trans. of Archiv [für das] Eisenhüttenwesen (West Germany) 1962, v. 33, no. 5, p. 317-325.

DESCRIPTORS: Metallography, *Non-destructive testing, *Ultrasonics, *Steel, Casting, Sound, Attenuation, Penetration, Reflection, Grain structures (Metallurgy), Deformation.

Kobeza, I. I., Bembinek, E. I., and Smirnov, V. M.
PORT FOR NATURAL-GAS FIRING OF OPEN-HEARTH FURNACES. Jan 63, 1400 words.
Order from HB $3.50 HB-5560

Trans. of #Metallurg (USSR) 1962 [v. 7] no. 2, p. 22-24.

DESCRIPTORS: *Open hearth furnaces, *Natural gas, Gas burners, Carburetors.

Kojima, H., Suzuki, T. and Sato, R.
EFFECT OF LUBRICANTS AND TOOL GEOMETRY ON THE METAL FLOW AND EXTRUSION FORCE IN EXTRUSION OF TUBING. Jan 63, 800 words.
Order from HB $3.60 HB-5843

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1394-1395.

DESCRIPTORS: *Steel tubing, Extrusion, *Lubricants, Graphite, Oils, Glass, Machine tools, *Dies, Geometry.

Kudelya, E. S.
DETERMINATION OF WELD METAL COMPOSITION BY MEANS OF ELECTROSPARK SAMPLING. [1962] [6]p. 6 refs.
Order from OTS or SLA $1.10 62-20141

Trans. of Avtom[aticheskaya] Svarka (USSR) 1958, v. 11, no. 4, p. 67-71.

DESCRIPTORS: *Welds, Steel, Spectrographic analysis, Welding, Electrodes, *Electric discharges, Chemical analysis.

A method is described for determining the composition of metal deposits by a spectroscopic method in cases where it is impossible to take samples for an analysis under laboratory conditions. (Author)

Kulinski, Z.
PRODUCTION OF LOW-CARBON FERROCHROMIUM BY THE SINGLE-FURNACE PROCESS. Jan 63, 2700 words.
Order from HB $7.50 HB-5811

Trans. of Hutnik (Poland) 1962, v. 29, no. 10, p. 378-381.

DESCRIPTORS: *Iron alloys, *Chromium alloys, Production, *Furnaces, Slags.

Leroy, P. and Simon, R.
CONTINUOUS PREREFINING OF HOT METAL IN THE BLAST FURNACE LAUNDER BY BLOWING PURE OXYGEN THROUGH POROUS TILES [AND] APPENDICES: 1. DETERMINATION OF THE CORRECTION OF THE INITIAL SILICON. 2. EVALUATION OF A TENTATIVE COST ANALYSIS FOR CONTINUOUS PREREFINING. Feb 63.
Order from BISI £10 BISI-3047

Trans. of Revue de Metallurgie (France) 1957, v. 54 [no. 10] p. [8]03-812.

DESCRIPTORS: *Metals, Purification, *Blast furnaces, *Oxygen, Injection, *Porous materials, Ceramic materials, *Silicon, Determination, Costs.

Maatsch, J.
THE PENETRATION OF A FREE GAS JET INTO THE SURFACE OF A FLUID. Feb 63.
Order from BISI £6 5s BISI-3064

Trans. of Technische Mitteilungen Krupp. Forschungsberichte (Germany) 1962, v. 20, Apr, p. 1-9.

DESCRIPTORS: *Jets, Penetration, Pressure, Cratering, Nozzles, *Liquid metals, Iron, Slags, Density.

Meshkov, Yu. Ya.
MAGNETOMETER FOR THE STUDY OF PHASE CHANGES DURING RAPID HEATING AND COOLING. Jan 63, 2400 words.
Order from HB $8.40 HB-5818

Trans. of Ukrayins'kyi Fizychnyi Zhurnal (USSR) 1960, v. 5, no. 5, p. 252-258.

DESCRIPTORS: *Steel, Heating, Cooling, *Phase studies, Recording systems, *Magnetometers.

Mikulinskii, A. S. and Ryabchikov, I. V.
PRODUCTION OF ALLOYS OF CALCIUM AND MAGNESIUM WITH SILICON. Jan 63, 2800 words.
Order from HB $8.40 HB-5592

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 6, p. 344-350.

DESCRIPTORS: *Silicon alloys, *Magnesium alloys, *Calcium alloys, Reduction (Chemistry), Oxides, Smelting, Induction heating, Slags, Vaporization, Economics.

Münch, G.
EQUIPMENT FOR NON-CONTACT WIDTH MEASUREMENT. [1962].
Order from BISI £2 15s BISI-2981

Trans. of Blech (West Germany) 1961 [v. 8, no. 3] p. 173-[178].

DESCRIPTORS: Measurement, *Steel, *Electronic equipment, Metal plates, Sheets.

Novozhilov, N. M.
AUTOMATIC UNDER-WATER WELDING IN AN OXIDIZING ATMOSPHERE. [1962] [7]p. 5 refs.
Order from OTS or SLA $1.10 62-20048

Trans. of Svarochnoe Proizvodstvo (USSR) 1956, no. 2, p. 13-15.

DESCRIPTORS: *Welding, *Underwater, Automatic, Atmosphere, Oxygen.

A method for the automatic under-water welding in a strongly oxidizing protective atmosphere consisting of CO_2 or mixtures of oxygen with CO_2 or inert gases, has been described. In under-water welding, the increased oxidizing power of the protective atmosphere (more than 10 to 15 per cent oxygen) is a useful and necessary property for suppressing the harmful effect of hydrogen and for obtaining sound weld metal. Laboratory tests have confirmed the practical feasibility of automatic under-water welding in a strongly oxidizing atmosphere. (Author)

Novozhilov, N. M.
POROSITY IN GAS-SHIELDED METAL ARC WELDING. [1962] [11]p. 7 refs.
Order from OTS or SLA $1.60 62-20045

Trans. of Svarochnoe Proizvodstvo (USSR) 1955, no. 4, p. 9-13.

DESCRIPTORS: *Arc welding, Metals, Shielding, Gases, Porosity.

The interaction of the gases with the metal is most intense when the welding is carried out with consumable electrodes at high current densities. The principal defect in welding steel by this method is the presence of porosity in the weld metal which is caused by the temperature-dependent change in the solubility in the metal of the active diatomic gases (H_2, N_2, and O_2) and by their reactions in the weld puddle with constituents in the metal (C, S) and with each other. Shielding at atmospheres containing significant amounts of hydrogen or nitrogen are not suitable for welding steel with consumable electrodes at high current density because they lead to excessive weld metal porosity. When steel is welded with consumable electrodes in an atmosphere of oxidizing gases (CO_2, mixtures of argon with O_2 or CO_2) it is possible to obtain porosity-free weld deposits of the required properties. In the presence of oxidizing gases (O_2, CO_2, etc.) in the shielding atmosphere the chances of forming porosity due to hydrogen and nitrogen are reduced because of the formation of compounds of oxygen with hydrogen and nitrogen in the arc zone. CO_2-shielded metal arc welding is less sensitive to rust than submerged arc welding. (Author)

Ohashi, H., Sakajo, T., and Ozawa, M.
CHARACTERISTICS OF DIE STEELS MELTED IN THE CONSUMABLE-ELECTRODE VACUUM-ARC FURNACE. Jan 63, 1100 words.
Order from HB $4.20 HB-5793

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1413-1415.

DESCRIPTORS: *Vacuum furnaces, *Electric furnaces, *Steel, Melting, Quenching (Cooling), Heat treatment, Hardness, Transformation, Compressive properties, Tensile properties, Fatigue (Mechanics), Electrodes.

Rauzin, Ya. R.
GRAIN REFINEMENT ON HIGH-TEMPERATURE HEATING. Jan 63, 1800 words.
Order from HB $4.30 HB-4314

Trans. of Metallovedenie i [Termicheskaya] Obrabotka Metallov (USSR) 1958, no. 8, p. 14-17.

DESCRIPTORS: *Grain structures (Metallurgy), Heating, *Aluminum, Crystallization, Stability, Transitions.

Samson-Himmelstjerna, H. O. v.
HEAT CAPACITIES AND HEATS OF FORMATION OF MOLTEN ALLOYS. 1 Dec 49, 11p. (figs. tables refs. omitted).
Order from SLA $1.60 62-18604

Trans. of Z[ei]ts[chrift] f[ür] Metallkunde (Germany) 1936 [v. 28, no. 7] p. 197-202.

DESCRIPTORS: *Alloys, Melting, *Liquid metals, *Heat of formation, Intermetallic compounds, Heat.

Samsonov, G. V.
CRYSTAL-CHEMICAL PROPERTIES OF RARE EARTH SULFIDES AND ACTINIDE SULFIDES. 5 Dec 62[25]p. 15 refs. JPRS: 16537.
Order from OTS or SLA $2.60 63-13500

Trans. of Poroshkovaya Metallurgiya (USSR) 1962 [v. 2] no. 4, p. 10-19.

DESCRIPTORS: *Sulfides, *Lanthanum, *Actinium, Heat of formation, Magnetic moments, Crystal lattices, Chemical properties.

Literature dealing with the properties of crystalline sulfides of lanthanum and actinium series metals is reviewed. Data presented in tabular form include the ratio between the radius of the sulfur atom and the radii of the metal atoms, specific resistivity, thermal E. M. F., heat of formation, bond length in oxysulfides, magnetic moment, and the dependencies of crystal lattice periods on the atomic number of the metal.

Serensen, S. V. and Kotov, P. I.
CONTRIBUTION TO THE QUESTION OF CONDUCTING TESTS ON THERMAL FATIGUE (K Voprosu o Metodike Provedeniya Ispytanii na Termicheskuyu Ustalost'). [1962] [32]p. (foreign text included) 40 refs.
Order from OTS or SLA $3.60 62-18901

Trans. of #Zavodskaya Laboratoriya (USSR) 1958, v. 24, no. 9, p. 1097-1106.
Another trans. is available from LC or SLA mi$2.40, ph$3.30 as 60-15810, CE Trans-1395 [1960] [15]p.

DESCRIPTORS: Metals, *Fatigue (Mechanics), *Thermal stresses, Deformation, Creep, Test methods, Temperature.

Shelamov, V. A.
A METHOD OF BRIQUETTING ALUMINUM POWDER. 18 Mar 63 [12]p. 6 refs. JPRS: 18186.
Order from OTS $0.50 63-21348

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Tsvetnaya Metallurgiya (USSR) 1961 [v. 4] no. 1, p. 134-139.

DESCRIPTORS: *Powder metals, *Aluminum, *Briquettes, Material forming, *Metal forming presses, Cylinder liners, Lubricants.

The new method is given for the preparation of SAP briquettes using corrugated metal liners which permits the production of uniform, high-quality briquettes suitable for further processing by pressure forming methods. The weight and dimensions of the briquettes obtained is limited only by the size of the equipment used. (Author)

Skorokhod, V. V., Fedorchenko, I. M., and Panfilov, Yu. A.
CALCUL DE LA CONDUCTIVITÉ ET DE LA PÉRMEANCE MAGNÉTIQUE EN FONCTION DE LA CONCENTRATION DES ALLIAGES CERMETS À DEUX PHASES (S Raschetu Kontsentratsionnoi Zavisimosti Elektroprovodnosti i Magnitnoi Pronitsaemosti Dvukhfaznykh Metallokeramicheskikh Splavov) (On the Calculation of the Concentration Dependence of Electrical Conductivity and Magnetic Permeability of Two-phase Metal Powder Alloys) tr. by de Trezvinsky. 28 Apr 62 [16]p. (Russian text included) 4 refs.
CEA Trans. no. R 1628 (text in French).
Order from OTS or SLA $1.60 62-33735

Trans. in French of Poros[hkovaya] Metal[lurgiya] (USSR) 1961 [v. 1] no. 4, p. 42-46.

DESCRIPTORS: *Powder alloys, *Cermets, *Tungsten alloys, *Copper alloys, Electrical conductance, Permeability (Magnetic).

Experimental investigations were conducted on the concentration dependence of the electrical conductivity and the magnetic permeability of certain two-phase metallic alloys. The applicability of Odelevsky's theory for the calculation of the magnetic permeability of two-phase systems is shown. The applicability of the formula of Landau and Lifshits is confirmed for the calculation of the conductivity of two-phase alloys with a difference in the phase conductivity of not more than five times. A method is indicated for the calculation of conductivity in mixtures with essential contact phenomena and its applicability is experimentally proved. (Author)

Springer, R.
MODERN ELECTROLYTIC DEPOSITION PROCESSES. [1962] 15p. (refs. omitted).
Order from SLA $1.60 62-20354

Trans. of Chemie-Ingenieur-Technik (West Germany) 1949 [v. 21, no. 15/16] p. 298-304.

DESCRIPTORS: *Electroplating, *Electrodeposition, *Metal coatings, Coatings.

Teverovskii, B. Z.
PRIMARY CLEANING OF BLAST-FURNACE GAS BY CENTRIFUGAL DUST EXTRACTORS. Jan 63, 1900 words.
Order from HB $5.50 HB-5166

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 3, p. 16-22.

DESCRIPTORS: *Blast furnaces, *Waste gases, Cleaning, Particles, Separation, *Centrifuges, Dusts.

Thomas, M.
COATING FOR INGOT MOULDS. Feb 63.
Order from BISI £3 5s BISI-2859

Trans. of Centre de Documentation Siderurgique. Circulaire d'Informations Techniques (France) 1953 [v. 10] no. 9, p. 1421-1429.

DESCRIPTORS: *Castings, Molding, *Coatings.

Tokuda, S., Kubota, S., and Kosaka, M.
PROGRAM-CONTROLLED CONSUMABLE-ELECTRODE VACUUM-ARC MELTING FURNACE. Jan 63, 1200 words.
Order from HB $4.50 HB-5791

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1410-1411.

DESCRIPTORS: *Vacuum furnaces, *Electric furnaces, Melting, *Electrodes, *Automation, Control systems, Programming (Computers)

Tzschaschel, H.
THE SO_3 CONCENTRATION IN ROASTER GASES AND COPPER CONVERTER GASES. [1962] 8p.
Order from SLA $1.10 62-18520

Trans. of Metall und Erz (Germany) 1944, v. 41, no. 17/18, p. 203-205.

DESCRIPTORS: *Ores, *Pyrites, *Copper, Furnaces, *Waste gases, *Sulfur compounds, Oxides, Production.

Wahlster, M.
APPLICATION OF THE MAGNETIC BALANCE IN THE PROCESSING OF ORE, SINTER AND PELLETS. Jan 63, 4500 words.
Order from HB $9.80 HB-5788

Trans. of Techn[ische] Mitteil[ungen] Krupp. Forsch[ungs]berichte (Germany) [1962] v. 20, no. 3, p. 65-72.

DESCRIPTORS: *Ores, Processing, Magnetic properties, Magnetic roasting, *Balances, Sinters, Pellets.

Waldura, W.
PROGRESS IN CONSTRUCTION OF METAL ROLLING MILLS. [5] 5p. (figs. omitted).
Order from SLA $1.10 63-10002

Trans. of Metall (West Germany) 1954, v. 8, no. 7/8, p. 280-282.

DESCRIPTORS: *Rolling mills, Construction, Metals, Mechanical working.

Wallquist, Gunnar.
GRAPHIC ROLL GROOVING. [1962] 11p. (figs. [formulae] omitted).
Order from SLA $1.60 63-10041

Trans. of Jernkontoret [Stockholm]. Annaler (Sweden) 1948, v. 132 [no. 2] p. 27-41.
Another trans. is available from SLA mi$2.40, ph$3.30 as 60-18665 [Nov 48] 13p.

DESCRIPTORS: *Rolling mills, Mechanical working, Material forming, Numerical analysis, *Steel industry.

Yazovskikh, I. M. and others.
EFFECT OF CARBON CONTENT AND OF POURING TEMPERATURE UPON HOT TEARING OF 28% CR STEEL CASTINGS. Jan 63, 900 words.
Order from HB $3.50 HB-5844

Trans. of Khim[icheskoe] Mashinostr[oenie] (USSR) 1962 [v. 4] no. 6, p. 29-30.

DESCRIPTORS: *Steel castings, *Chromium alloys, *Carbon, Temperature, Iron alloys, Liquid metals.

Zyablov, B. N., Maslyanikov, V. A. and others.
METHOD OF FORGING BY EXPLOSION. 30 Oct 62 [5]p. FTD-TT-62-1293.
Order from OTS or SLA $1.10 63-13917

Unedited rough draft trans. of [Soviet] patent 141472, appl. no. 666020/25/7c, 14, 49h. 11, 21 Nov 60.

DESCRIPTORS: *Forging, *Explosive forming, Porous materials, Manufacturing methods, Steel, Metals, Alloys.

Explosive forging of items from metal, achieved by a layer composed of a porous material (foam-rubber, plastic, sponge rubber and others).

Ferrous Metals

DEVICE FOR THE AUTOMATIC REVERSING OF ROLLED ROD, STRIP IRON, ETC. [1962] 3p. (figs. omitted).
Order from OTS or SLA $1.10 62-18456

Trans. of German patent 127,273, 20 Jan 01, by Frierich Boecker Philipp Sohn.

DESCRIPTORS: *Rolling mills, Automatic, *Iron, Rods

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 100. 7 Mar 63 [25]p. JPRS: 17995.
Order from OTS $0.75 63-21265

Trans. from Ekonomicheskaya Gazeta (USSR) 1962, no. 46(67) p. 31; Pravda, Moscow (USSR) 1962, 17 Nov p. 2; Stroitel'naya Gazeta (USSR) 1962, 30 Nov, p. 1.

DESCRIPTORS: *Industrial production, *Metallurgy, *Pipes, *Steel tubing, Economics, *Iron, Blast furnaces, Automation, *Steel, Rolling mills.

Contents:
Shortages of certain types of pipe, poor location of the pipe industry, and the need for indices of pipe consumption, by L. Spivakovskii
Increased capacity and automation of blast furnaces further the rapid rise in iron production, by P. Netrebko and M. Kutner
Cold-rolling shop of the Cherepovets metallurgical plant ready to begin steel production operations, by A. Nikolaev.

Abrecht, H. and Giesen, K.
INVESTIGATION OF THE PRODUCTION OF SPHEROIDAL GRAPHITE CAST IRON BY BLOWING A MIXTURE OF CALCIUM CARBIDE AND MAGNESIUM INTO THE MELT. [1962] [4]p. (figs. omitted).
Order from SLA $1.10 62-20085

Abstract trans. of Giesserei (West Germany) 1958, v. 45, no. 5, p. 113-117.

DESCRIPTORS: *Cast iron, Melting, *Graphite, Injection, *Calcium compounds, *Carbides, *Magnesium, Mixtures.

The authors describe the application of the Airco Metflux process in a foundry. The injection conditions and the equipment were modified to meet the different conditions existing in European foundries, (lower bath temperature). (Author)

Bogdandy, L. von.
VAPORIZATION AND REFINING. Pt. II-A of the [Reaction Kinetics in Iron and Steel Making]. Jan 63, 4100 words.
Order from HB $9.70 HB-5334

Partial trans. (p. 287-292) of Archiv [fllr das] Eisenhüttenwesen (West Germany) 1961, v. 32, no. 5, p. 287-292.
A complete trans. is available from ATS $27.40 as ATS-O6N57G [1961] 19p.

DESCRIPTORS: *Reaction kinetics, *Iron, *Steel, Production, Vaporization, Purification, Nucleation.

Draigor, D. A. and Zhuk, V. Ya.
ON THE SPALLING MECHANISM OF NODULAR CAST IRON SURFACES INDUCED BY CONTACT IN ROLLING FRICTION. Jan 63, 1200 words.
Order from HB $3.90 HB-5814

Trans. of Adad[emiya] Nauk URSR [Kiev]. Dopovidi, 1962, no. 3, p. 374-377.

DESCRIPTORS: *Cast iron, Pearlite, Ferrites, Magnesium, Surface properties, *Spallation, Fatigue (Mechanics), Hardness, Graphite, Rolling mills, *Friction.

Eremin, N. I.
DISPERSION OF FERROMAGNETIC PRECIPITATE IN AUSTENITE COMPOSITIONS, STUDIED BY DEMAGNETIZATION CURVES [Issledovaniya Dispersnosti Ferromagnitnykh Vydelenii v Austenitnykh Splavakh po Krivym Razmagnichivaniya]. Jan 63, 750 words.
Order from HB $2.25 HB-4279

Trans. of Metallovedenie i [Termicheskaya] Obrabotka Metallov (USSR) 1958, no. 7, p. 27-30.

DESCRIPTORS: Alloys, *Austenite, *Ferromagnetic materials, Precipitation, *Domains (Crystallography), Magnetic properties.

Feller-Kniepmeier, M. and Thiele, M.
EFFECT OF CONTAMINATION OF LOW-CARBON PLAIN STEEL BY COPPER AND TIN ON ITS WORKABILITY. Jan 63, 3400 words.
Order from HB $9.50 HB-5752

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 21, p. 1432-1436.

DESCRIPTORS: *Steel, Contamination, *Copper, *Tin, Surface properties, Grain structures (Metallurgy).

Gerling, W. and Bauer, K. H.
OPERATING EXPERIENCE WITH THE CONTINUOUS CASTING OF LOW-CARBON STEEL SLABS. Dec 62, 5200 words.
Order from HB $12.70 HB-5720

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 20, p. 1349-1355.

DESCRIPTORS: *Steel, *Casting, Industrial production.

Ginzburg, E. S.
CREEP-RESISTING STAINLESS STEELS FOR STEAM POWER PLANTS OPERATING AT UP TO 600°C (1110°F) [Zharoprochnye Nerzhaveyushchie Stali dlya Energoustanovok s Temperaturoi para do 600°]. Jan 63, 1300 words.
Order from HB $3.90 HB-4254

Trans. of Metallovedenie i [Termicheskaya] Obrabotka Metallov (USSR) 1958, no. 6, p. 47-52.

DESCRIPTORS: *Heat resistant alloys, *Stainless steel, Creep, Resistance, Steel, *Steam power plants, Turbine parts.

Husson, G., Peters, A. and others.
COMPARISON OF DIFFERENT METHODS OF ATOMIZING FUEL OIL IN THE OPEN HEARTH FURNACE: GENERAL CONCLUSIONS. Mar 62, 2p.
Order from SLA $1.10 62-14711

Partial trans. (p. 274-275) of Documentation Métallurgique (France) 1956, July, spec. no. Sa 2, p. 256-277.

DESCRIPTORS: *Open hearth furnaces, *Fuel oil, Atomization, Steel industry.

Kabanov, Yu. N., Korneev, S. B. and others.
AUSFORMING BY EXTRUSION: EXTRUDED SUPERSTRENGTH STEEL SEMIPRODUCTS. 9 Jan 63 [2]p. 3 refs. AID rept. S-63-5.
Order from OTS or SLA $1.10 63-15317

Abstract trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 10, p. 37-38.

DESCRIPTORS: *Steel, Material forming, *Austenite, Phase transitions, *Extrusion.

The article describes a method of ausforming in which a high-strength steel was extruded in the condition of a metastable austenite. (Author)

Khrapov, A. Ya. and Bedarev, V. I.
SUPERCOOLING OF MAGNESIUM-TREATED CAST IRON. Jan 63, 2300 words.
Order from HB $6.40 HB-5782

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 10, p. 131-136.

DESCRIPTORS: *Cast iron, *Magnesium, Cooling, Graphite, Eutectics, Crystallization.

Kinne, G., Vishkarev, A. F. and Yavoiskii, V. I.
THERMODYNAMICS OF THE DEOXIDATION OF STEEL BY MEANS OF LANTHANUM, CERIUM, PRASEODYMIUM AND NEODYMIUM. Jan 63, 2800 words.
Order from HB $7.80 HB-5754

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 9, p. 92-98.

DESCRIPTORS: *Steel, Deoxidation, *Thermodynamics, Heat of formation, Entropy, Heat of fusion, Specific heat, *Lanthanum, *Cerium, *Praseodymium, *Neodymium.

Manchinskii, V. G.
SOME SPECIAL FEATURES OF THE REDUCTION OF A STATIC IRON-ORE BED BY GASES. Jan 63, 3500 words.
Order from HB $9.75 HB-5262

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 6, p. 11-19.

DESCRIPTORS: *Ores, *Iron, Reduction (Chemistry), Gases, Carbon compounds, Monoxides, Hydrogen, Gas flow.

Mirkin, I. L. and Sirenko, T. A.
PROPERTIES OF SURFACE ZONE OF PIERCED HOLES HAVING VARIOUS CARBIDE CONTENTS [Issledovanie Svoistv Poverkhnostnogo Sloya pri Besstruzhovoi Obrabotke Stali s Razlichnym Kolichestvom Karbidnoi Fazy]. Jan 63, 1800 words.
Order from HB $4.60 HB-4354

Trans. of Metallovedenie i [Termicheskaya] Obrabotka Metallov (USSR) 1958, no. 9, p. 29-33.

DESCRIPTORS: *Steel tubing, Production, *Carbides, Steel, Surface properties, Deformation, Phase studies, Hardening.

Nasonov, P. Ya. and others.
FLUIDIZED-BED REDUCTION OF IRON OXIDES WITH HYDROGEN UNDER HIGH PRESSURE. Jan 63, 2700 words.
Order from HB $8.25 HB-5785

Trans. of Akad[emiya] Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya] i Topl[ivo], 1962, no. 5, p. 29-36.

DESCRIPTORS: *Ores, *Iron compounds, Reduction (Chemistry), *Fluidized solids, *Hydrogen, Pressure.

Perkas, M. D.
STUDY OF HARDENING AND SOFTENING OF IRON ALLOYED WITH MANGANESE [Izuchenie Uprochneniya i Razuprochneniya Zheleza, Legirovannogo Margantsem]. Jan 63, 2000 words.
Order from HB $4.90 HB-4215

Trans. of #Metallovedenie i [Termicheskaya] Obrabotka Metallov (USSR) [1958] no. 5, p. 8-13.

DESCRIPTORS: *Iron alloys, *Manganese alloys, Hardening, Cold-working, Quenching (Cooling), X-ray spectroscopy, Grain structure (Metallurgy), Deformation.

Peter, W. and Spitzer, H.
EXPERIMENTS ON THE PRODUCTION OF ALLOY STEELS IN THE CONSUMABLE-ELECTRODE VACUUM ARC FURNACE. Dec 62, 6500 words.
Order from HB $16.25 HB-5700

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 19, p. 1287-1298.

DESCRIPTORS: *Steel, Alloys, Production, *Vacuum furnaces, *Electric furnaces, Electrodes.

Petz, M.
EXPERIENCES WITH THE CONTINUOUS CASTING OF STAINLESS STEELS, PT. II. Jan 63, 4400 words.
Order from HB $9.80 HB-5706

Trans. of Berg- und Hüttenmannische Monatshefte (Austria) 1962, v. 107, no. 4, p. 162-168.

DESCRIPTORS: *Stainless steel, Casting, Cooling, Surface properties, Lubrication, Microstructure.

Plenard, Elisabeth.
ROLE OF GRAPHITE IN GREY CAST IRONS SUBJECTED TO TENSILE STRAINS (Role du Graphite dans les Fontes Grises Soumises a des Contraintes de Traction). Paper presented to Foundry Congress (no. 34) Paris, Nov 61. [1962] [38]p (foreign text included) 13 refs.
Order from SLA $3.60 62-18898

Trans. of Fonderie (France) 1962, no. 191, p. 1-14.

DESCRIPTORS: *Cast iron, *Graphite, Elasticity, Damping, Stresses, Tensile properties, Deformation, Friction, Foundries.

Springorum, F. A., Speith, K. G., and Olsen, W.
REFINING BASIC BESSEMER PIG IRON WITH PURE OXYGEN. 13 May 53, 8p. (figs. tables omitted).
Order from SLA $1.10 62-18936

Trans. of Stahl u[nd] Eisen (West Germany) 1953, v. 73, no. 1, p. 6-22.

DESCRIPTORS: *Iron, *Castings, Furnaces, Oxygen, Refineries, *Cast iron.

Schumacher, H[einz].
THE OPERATION OF THE LOW SHAFT BLAST FURNACE. 13 May 53 (figs. refs. omitted) 6p.
Order from SLA $1.10 62-20186

Condensed trans. of Stahl u[nd] Eisen (West Germany) 1953, v. 73, no. 5, p. 257-266 [Verein Deutscher Eisenhüttenleute (West Germany). Berichte-268]. A complete trans. is available from SLA mi$2.40, ph$3.30 as 60-18242 [July 53] 16p.

DESCRIPTORS: *Blast furnaces, Operation, *Shafts, Oxygen, Iron industry.

Vyshkovskii, Yu. G.
SOFTENING OF CARBURIZED ALLOY STEELS (PREPARATORY TO MACHINING). Jan 63, 1400 words.
Order from HB $3.20 HB-4321

Trans. of Metallovedenie i [Termicheskaya] Obrabotka Metallov (USSR) 1958, no. 8, p. 43-46.

DESCRIPTORS: *Steel, Alloys, Carbon, Hardness, Reduction, *Machining.

Yamane, T.
HEAT TREATMENT OF HIGH-STRENGTH LOW NICKEL-CHROME-VANADIUM STEEL. Jan 63, 1300 words.
Order from HB $4.80 HB-5732

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1458-1460.

DESCRIPTORS: *Steel, *Nickel alloys, *Chromium alloys, *Vanadium alloys, Heat treatment, Quenching (Cooling), Friction, Measurement, Tensile properties, Phase transitions, Microstructure.

Light Metals

Akerman, K. and Orman, M.
PREPARATION OF HIGH-PURITY CALCIUM. [1962] 10p.
Order from SLA $1.10 62-20142

Trans. of Acta Techn[ica] (Hungary) 1956, v. 15, no. 1/2, p. 179-189.

DESCRIPTORS: *Calcium, *Purification, Distillation, Reduction (Chemistry), Preparation

Biryukova, L. V.
CONSTANTS OF THE SOLUBILITY RATE OF ALUMINUM OXIDE IN ELECTROLYTES. [1962] 7p. 7 refs. MDF B-133.
Order from OTS or SLA $1.10 62-23056

Trans. of Tsvetnye Metally (USSR) 1956 [v. 29, no. 1] p. 57-61.

DESCRIPTORS: *Ores, Material separation, *Electrolytic cells, Electrolytes, *Aluminum compounds, Oxides, Sodium compounds, Calcium compounds, Fluorides, Solubility.

The solubility rate constants obtained enable the influence of various factors on the aluminum oxide solubility rate to be determined quantitatively. Mixing conditions exert considerable influence on the solubility rate constants. A 50 rpm increase in the mixing angular velocity increased the constant by approximately 20% in the conducted experiments. A 10^{o} change in the melt temperature alters the aluminum oxide solubility rate constant by 5% to 7%. The aluminum oxide structure exerts great influence on the solubility rate. The solubility rate constant of γ-aluminum oxide is approximately 75% greater than the solubility constant of α-aluminum oxide. The admixture of NaF to cryolite insignificantly decreases and the admixture of AlF_3 increases the solubility rate constant. The admixture of CaF_2 to cryolite up to 9% has no noticeable influence on the magnitude of the solubility rate constant. The aluminum oxide solubility time is determined by the solubility rate constant and the degree of melt saturation by aluminum oxide. Taking into account the insignificant change in the operation of industrial cells and, therefore, the negligible change in the solubility rate constant, special attention should be paid to the degree of melt saturation by aluminum oxide when supplying industrial electrolysers. (Author)

Blok, N. I., Glazova, A. I. and others.
THE EFFECT OF HYDROGEN ON STRUCTURAL TRANSFORMATIONS IN TITANIUM ALLOYS.
7 Mar 63 [15]p. 6 refs. JPRS: 17990.
Order from OTS $0.50 63-21264

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1958, no. 12, p. 96-99.

DESCRIPTORS: *Titanium alloys, Hydrogen, *Grain structures (Metallurgy), Transformations, Phase transitions, Eutectics, Molybdenum alloys, Chromium alloys.

The effect of hydrogen on the degree of stability of the residual β-phase has been established by means of a complex method of phase analysis for VT3 and VT3-1 alloys. (Author)

Goubkin, S. I.
MECHANICS OF THE PLASTIC DEFORMATION OF MATERIALS: FLOW CHARACTERISTICS OF DURALUMIN. [1960] [48]p. (figs. formulae omitted) 30 refs.
Order from OTS or SLA $4.60 60-10281

Trans. of NIIMASH (USSR) 1931 [v. 1] no. 8, p. 363-390.

DESCRIPTORS: *Aluminum alloys, Creep, *Mechanics, Stresses, Deformation, Pressure, Metals.

Nonferrous (except light) Metals

USSR INDUSTRIAL DEVELOPMENT: SOVIET NONFERROUS METALLURGY NO. 53. 6 Mar 63 [42]p. JPRS: 17964.
Order from OTS $1.25 63-21255

Trans. from #Tsvetnye Metally (USSR) 1962 [v. 35, no. 12]; Kazakhstanskaya Pravda (USSR) 1962, 7 Dec; Kommunist, Erevan (USSR) 1962, 8 Dec; Ekonomicheskaya Gazeta (USSR) 1962, no. 49(70) p. 34 (excerpts); Pravda Vostoka (USSR) 1962, 16 Dec.

DESCRIPTORS: *Metallurgy, *Conferences, Processing, *Molybdenum, Mining engineering, *Geology, Aluminum compounds, Oxides, *Industrial plants, Management engineering, *Scientific research, Scientific organizations, Research program administration, Asia.

Contents:
All-Union Conference on new methods of overall processing of polymetallic raw materials
The molybdenum mine at Tyrnyauz, Kabardino-Balkarskaya ASSR, by N. Mosienko
New geological developments in the Armenian SSR, by R. Sinanyan
Bad planning delays the Achinsk alumina plant and other projects, by I. Dubson
Two proposals for reorganizing Central Asian metallurgical research institutions.

USSR INDUSTRIAL DEVELOPMENT: SOVIET NONFERROUS METALLURGY NO. 54. 7 Mar 63 [56]p. JPRS: 18001.
Order from OTS $1.50 63-21269

Trans. of Mekhanizatsiya i Avtomatizatsiya Proizvodstva (USSR) 1962 [v. 16] no. 11, p. 26-33; Sotsialisticheskii Trud (USSR) 1962 [v. 7] no. 10, p. 129-131; Partiinaya Zhizn' (USSR) 1962, no. 23, p. 27-33; Promyshlennost' Armenii (USSR) 1962 [v. 5] no. 11, p. 14-15; Referativnyi Zhurnal. Gornoe Delo (USSR) 1962, no. 11, item 11B272; Gornyi Zhurnal (USSR) 1962, no. 12, p. 8-10; and from Zarya Vostoka (USSR) 1962, 1 Dec (1 article)

DESCRIPTORS: *Industrial production, *Metallurgy, *Machines, *Automation, Mining engineering, *Ores (Metal sources), Rolling mills, Sintering, Control systems, Lead, Zinc, Copper, Sulfuric acid, Minerals, Deposits, Transportation, *Nickel, Mines, Boreholes, Powder alloys.

Contents:
Technical progress at the enterprises of Vostocnno-Kazakhstanskaya oblast, by A. S. Kolebaev
Automation of production processes in nonferrous metallurgy, by V. I. Feigin
Introducing advanced know-how at the Pyshma mine, by V. Kristoforov
Nonferrous metallurgy in Eastern Kazakhstan, by L. Polner
Alter the plan of development of the Zodskoe deposit, by G. Lusinyan
Open-strip mining of nickel deposits in Orenburgskaya oblast, by B. Aleksandrov
Use of deep boreholes for breaking ore at the Sumsarsk mine, by V. A. Shestakov and others
Seminar on hard alloys in Tbilisi, by Z. Kuznitskii.

USSR INDUSTRIAL DEVELOPMENT: SOVIET NONFERROUS METALLURGY NO. 55. 19 Mar 63 [39]p. JPRS: 18220.
Order from OTS $1.00 63-21363

Trans. of Promyshlennost Armenii (USSR) 1962 [v. 5] no. 10, p. 25-29 and 43-47; Narodnoe Khozyaistvo Kazakhstana (USSR) 1962 [v. 20] no. 9, p. 42-44 and 67-69; and from Komsomol'skaya Pravda (USSR) 1962, 25 Nov; Kazakhstanskaya Pravda (USSR) 1962, 25 Nov.

DESCRIPTORS: *Industrial production, *Metallurgy, Economics, Mining engineering, *Labor, *Lead, *Zinc, *Copper, *Molybdenum.

Contents:
Nonferrous metal is wasted for nonessential purposes
Profitable innovations at the Ust'-Kamenogorsk lead-zinc combine, by B. Chernolovskii
New equipment for spoil dumping operations at the Kadzharan pit, by G. Grigoryan
Determination of the density of the prospecting network as practiced at the Kadzharan copper-molybdenum stockwork, by E. Zil'man
Public design offices aid technical progress, by A. Lipovoi
For better management of labor, by Yu. Kremer.

Gavrilyuk, M. I., Chaporova, I. N. and others.
STUDYING THE EFFECT OF PROCESS ANNEALING ON THE STRUCTURE AND PROPERTIES OF CASTED TUNGSTEN. 28 Nov 62 [13]p. 16 refs.
FTD-TT-62-1243.
Order from OTS or SLA $1.60 63-15284

Unedited rough draft trans. of #Fizika Metallov i Metallovedenie (USSR) 1962, v. 13, no. 5, p. 693-700.

DESCRIPTORS: *Tungsten, *Annealing, Temperature, Mechanical properties, Microstructure, Fracture (Mechanics), Phase transitions, Crystallization, Grains (Metallurgy).

The effect of annealing temperature on the mechanical properties, microstructure and structure of casted tungsten fractures, was investigated. The absence of formation of foreign phases on the boundaries of grain of recrystallized (processed) metal, was established. It was assumed that brittleness of tungsten and metals analogous to it in recrystallized state is connected with the phenomenon of intercrystallite internal adsorption of admixtures. (Author)

Sedlatschek.
THE DUCTILITY OF ELECTROLYTICALLY TREATED TUNGSTEN (CONTINUATION NO. 2) [1962] 6p.
Order from SLA $1.10 62-18314

Trans. of Metallwerk Plansee Gesellschaft m. b. H., Reutte (Austria). [Laboratory Experimental] Rept-05/94/52, 1 Apr 52.

DESCRIPTORS: *Tungsten, Electrolytic polishing, Ductility, Brightness.

The use of an electolyte with brightening effect, and of direct current, has demonstrated that an increase in the ductility of tungsten shapes can be achieved in the same manner as with the use of a sodium nitrate solution and with alternating current. The increase in ductility is retained after a 15 minute period of annealing at temperatures up to 1350° C. The surface brightness is somewhat reduced within this temperature range. The increase in ductility is caused by the removal of a relatively thin surface layer which, because of the mechanical machining of the surface of the tungsten, exhibits a disturbance in structure and, in this connection, higher values of hardness and notch effects. (Author)

Yanabu, O., Watanabe, T., and Nishimura, T.
ANODIC MARKING OF DIFFERENTIALLY COATED ELECTROLYTIC TIN PLATE. Feb 63.
Order from BISI $4 5s BISI-3067

Trans. of Tetsu to Hagane (Japan) 1960, v. 46 [no. 9] p. 1294-1296.

DESCRIPTORS: *Metal plates, *Tin, *Coatings, Electrodeposition, Anodes, Electrolytes.

Structural Metallurgy and Corrosion

Akimov, G. V., Clark, G. B., and Koshelev, G. G.
THE CORROSION OF METALLIC STRUCTURES AT POINTS OF CONTACT WITH OTHER STRUCTURAL MATERIALS. [1962] [11]p. (figs. omitted).
Order from OTS or SLA $1.60 62-18616

Trans. of Promyshlennoe Stroitel'stvo (USSR) 1961, v. 39, no. 2, p. 49-53.

DESCRIPTORS: *Metals, *Corrosion, Buildings, Construction, Materials, Joints, *Corrosion inhibition, Coatings.

Eilender, W.
PASSIVATION OF TIN PLATE. 20 Sep 52, 6p. (figs. omitted).
Order from SLA $1.10 62-18338

Trans. of Werkstoffe und Korrosion (West Germany) 1951 [v. 2] no. 8, p. 289-292.

DESCRIPTORS: *Tin plating, *Passivity, Corrosion inhibition.

Lykov, M. V., Inozemtsev, I. D., and Karpova, V.M
ANTI-CORROSION PROTECTION OF MOBILE TANKS FOR PETROLEUM PRODUCTS. 20 Feb 63 [16]p. 5 refs. JPRS: 17742.
Order from OTS $0.50 63-21180

Trans. of Lakokrasochnye Materialy i Ikh Primenenie (USSR) 1962, no. 2, p. 34-40.

DESCRIPTORS: Tanks (Containers), Mobile, *Oil tanks, *Fuel tanks, Corrosive liquids, Petroleum, *Corrosion inhibition, Protective treatments, Sandblasting, *Paints, Tests.

Various preparations for the fuel-resistant and atmospheric-resistant coatings were tested under laboratory conditions. A processing technique for the anti-corrosion protection of the inner surfaces of tanks using oil-resistant and fuel-resistant coatings of either hot-dried or naturally-dried paints and lacquers was developed. This technique is simple, does not require the use of complex equipment, and can be carried out in any plant. (Author)

Movchan, B. A.
DEVELOPMENT, STRUCTURE AND SOME PROPERTIES OF THE CRYSTALLITE BOUNDARIES IN CAST METALS AND ALLOYS. Jan 63, 3300 words.
Order from HB $9.70 HB-5663

Trans. of Akad[emiya] Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya i Toplivo, 1959, no. 5, p. 77-85.

DESCRIPTORS: Castings, *Stainless steel, *Nickel, Nickel alloys, *Cobalt alloys, *Tin, *Iron alloys, *Silicon alloys, *Crystal structure, Crystal lattice defects.

Trouble, M. and others.
PROTECTION AGAINST CORROSION. [1962] [29]p. 2 refs.
Order from SLA $2.60 62-20173

Trans. of Cables et Transmission (France) 1961, v. 15, no. 4, p. 395-402.

DESCRIPTORS: *Corrosion, Corrosion inhibition, Pipes, Soils, *Cathodic protection, Electrical equipment, Corrosion research.

Practical methods for the protection against corrosion are shown without a theoretical discussion of the processes of the corrosion itself. Procedures are described for reducing current exchanges between a pipe line system and the soil on the one hand and controlling pipe line potentials on the other hand. Various possibilities for manufacture and pipe-laying techniques, as well as for connections in telecommunication cables, are examined. Subsequently, divers systems of electric protection are studied which are customarily known under the general heading of "cathodic protection", and also the apparatus and material necessary for their use. the results obtained and the possibilities envisaged after a relatively short period of experience are mentioned. (Author)

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

Alekseev, R. I. and Polevaya, O. N.
SEPARATION DE SUBSTANCES PAR LA METHODE D'EXTRACTIONS ALTERNATES: EXTRACTION DE ^{99}Mo A PARTIR D'UN MELANGE DE PRODUITS DE FISSION DE L'URANIUM [Separation of Substances by the Alternating Extraction Method: Isolation of ^{99}Mo From a Mixture of Uranium Fission Fragments] tr. by Garber. 15 Feb 62 [22]p. 2 refs. CEA Trans. no. R 1487 (text in French).
Order from OTS or SLA $2.60 62-33763

Trans. in French of Radiokhimiya (USSR) 1961, v. 3, no. 4, p. 458-465.

DESCRIPTORS: *Radiochemistry, *Fission products, Mixtures, *Molybdenum, Radioactive isotopes, Separation, Purification.

Gordeev, I. V., Kardashev, D. A., and Malyshev, A. V.
HANDBOOK ON NUCLEAR PHYSICS CONSTANTS FOR REACTOR CALCULATIONS: [EXCERPTS AND TABLE OF CONTENTS]. [1962] [13]p. (refs. omitted).
Order from OTS or SLA $1.60 AEC-tr-4828

Partial trans. of mono. [Spravochnik po Yaderno-Fizicheskim Konstantam dlya Raschetov Reaktorov] Moscow, 1960, 278p.

DESCRIPTORS: *Handbooks, *Nuclear physics, *Reactor lattice parameters, Thermal neutrons, Neutron cross sections, Resonance, Inelastic scattering, Fast neutrons, Fission neutrons, Neutrons, Nuclear reactors.
Contents:
Cross sections of thermal-energy neutrons: absorption and scattering cross sections
Parameters of resonance levels: parameters of isolated resonance levels
Transport cross sections and cross sections of inelastic scattering: introduction
Cross sections of intermediate and fast neutrons: cross sections of radioactive capture
Energy and yield of fission products: fission neutrons.

Grebenshchikova, V. I. and Bobrova, V. N.
COPRÉCIPITATION DU PLUTONIUM ET DE L'AMERICIUM AVEC LE SULFATE DE POTASSIUM [Coprecipitation of Plutonium and Americium with Potassium Sulfate] tr. by Garber. 28 Apr 62 [34]p. 8 refs. CEA Trans. no. R 1618 (text in French).
Order from OTS or SLA $3.60 62-33757

Trans. in French of Radiokhimiya (USSR) 1961, v. 3, no. 5, p. 544-550.

DESCRIPTORS: *Radiochemistry, *Plutonium, *Americium, Potassium compounds, Sulfates, Chemical precipitation, Crystallization.

Kompaneets, A. S.
EQUATIONS DU CHAMP "SELF CONSISTENT" DU NOYAU, COMPTE TENU DES FORCES ÉLECTROSTATIQUES (Uravneniya Samosoglasovannogo Polya dlya s Uchetom Elektrostaticheskikh Sil) tr. by Mme. Authier. 20 Feb 62 [11]p. (Russian text included) 6 refs. CEA Trans. no. R 1497 (text in French).
Order from OTS or SLA $1.60 62-25081

Trans. in French of Zh[urnal] Eksper[imental'noi i] Teor[eticheskoi] Fiz[iki] (USSR) 1954, v. 26, no. 2, p. 153-158.

DESCRIPTORS: *Quantum statistics, Equations, *Electrostatics, *Nuclei, Nuclear particles, *Neutrons, *Protons.

On propose un critère d'application d'une approximation quasi-classique pour le champ "self consistent". On donne un système d'équations du champ autoconjugue qui décrit la répartition des protons et des neutrons dans le noyau. (Author)

Pushkarev, V. V.
CONCENTRATION D' ISOTOPES RADIOACTIFS PAR FORMATION DE MOUSSE À L'AIDE DE GÉLATINE (Kontsentrirovanie Radioaktivnykh Izotopov s Pomoshch'yu Genoobrazovaniya Zhelatinoi) [Concentration of Radioisotopes By Means of Gelatin Foaming] tr. by Garber. 15 Feb 62 [13]p. (Russian text included) 4 refs. CEA Trans. no. R 1485 (text in French).
Order from OTS or SLA $1.60 62-33755

Trans. in French of Radiokhimiya (USSR) 1961, v. 3, no. 4, p. 498-500.

DESCRIPTORS: *Radiochemistry, Radioactive isotopes, Purification, *Strontium, *Cerium, *Ruthenium, *Niobium, *Zirconium, Adsorbents, Iron compounds, Hydroxides, *Gelatin, Foams.

On préconise une nouvelle méthode de concentration de solutions aqueuses des isotopes ^{89}Sr, ^{144}Ce, ^{106}Ru, ^{95}Nb et ^{95}Zr qui consiste en leur adsorption sur l'hydroxyde de fer, suivie d'extraction par la mousse de gélatine. (Author)

Starik, I. E., Ampelogova, N. I. and others.
LE PROBLÈME DE L'ÉTAT MOLÉCULAIRE DES MICROQUANTITIÉS DE RADIOÉLEMENTS EN SOLUTION [Molecular State of Ultraminute Quantities of Radioelements in Solutions) tr. by Fedorovsky. 31 Mar 62 [25]p. 22 refs. CEA Trans. no. R 1597 (text in French).
Order from OTS or SLA $2.60 62-33737

Trans. in French of Radiokhimiya (USSR) 1959, v. 1, no. 4, p. 370-378.

DESCRIPTORS: *Radiochemistry, Radioactive isotopes, *Zirconium, *Polonium, *Americium, *Promethium, Solutions, Absorption, Ions, Colloids.

Stolyarova, E. L., Kramer-Ageev, E. A. and Fedorov, G. A.
SPECTROMÈTRE A SCINTILLATION DE NEUTRONS RAPIDES AVEC SCINTILLATEUR À BORE ORGANIQUE (Stsintillyatsionnyi Spektrometr Bystrykh Neitronon s Boroorganicheskim Stsintillyatorom) tr. by Cen-Far. 25 Mar 62 [10]p. (Russian text included) 6 refs. CEA Trans. no. R 1590 (text in French).
Order from OTS or SLA $1.10 62-33754

Trans. in French of #Pribory [i] Tekh[nika] Eksper[imenta (USSR) 1961 [v. 6] no. 3, p. 49-51.

DESCRIPTORS: *Fast neutrons, *Neutron spectroscopy, *Scintillation counters, Organic compounds, *Boron compounds.

Varshavskii, Ya. M.
GENERAL RULES GOVERNING THERMODYNAMIC ISOTOPE EFFECTS IN TRITIUM-PROTIUM EXCHANGE. [1962] [12]p. 11 refs.
Order from OTS or SLA $1.60 AEC-tr-5229

Trans. of mono. [International Atomic Energy Agency] Symposium on Tritium in the Physical and Biological Sciences, Vienna, 3-10 May 61. Proceedings, v. 1, 1962, p. 170-177 (STI/PUB/39).

DESCRIPTORS: *Radiochemistry, *Tritium, Hydrogen, *Exchange reactions, *Thermodynamics, Alkali metal compounds, Hydrides.

The coefficients (α) of tritium distribution in various systems of hydrogenous substances are calculated by a method based on statistical thermodynamics, giving a quantitative measure of the thermodynamic isotope effect. It is shown that for some systems (containing hydrides of alkali metals) the value of α may reach 20. (Author)

Vdovenko, V. M., Lipovskii, A. A., and [Kuzina, M. G.].
ABSORPTION DU NITRATE D'URANYLE PAR LES RÉSINES ECHANGEUSES D'ANIONS À PARTIR DE SOLVANTS ORGANIQUES [Absorption of Uranyl Nitrate from Organic Solvents with the Help of Anion Exchange Resins] tr. by Cen-Far. 3 Mar 62 [21]p. 11 refs. CEA Trans. no. R 1568 (text in French).
Order from OTS or SLA $2.60 62-33742

Trans. in French of [Radiokhimiya] (USSR) 1961, v. 3, no. 3, p. 365-371.

DESCRIPTORS: *Radiochemistry, *Uranyl radicals, Nitrates, Absorption, *Organic solvents, *Ion exchange resins.

Vdovenko, V. M., Lipovskii, A. A., and Nikitina, S. A.
CONCERNING THE MECHANISM OF EXTRACTION OF TETRAVALENT PLUTONIUM BY A PRIMARY ALKYL AMINE FROM SULFURIC ACID SOLUTION tr. by Martha Gerrard. [1962] 8p. 7 refs.
Order from OTS or SLA $1.10 AEC-tr-4982

Trans. of #Radiokhimiya (USSR) 1961, v. 3, p. 396-402.

DESCRIPTORS: *Radiochemistry, *Plutonium, Material separation, *Sulfuric acid, *Complex compounds, *Amines, Alkyl radicals, Sulfates, Nitrates, Chloroform.

It was shown that from aqueous sulfuric acid solutions Pu(IV) is extracted as the complex $(RNH_3)_4Pu(SO_4)_4$, the composition of which is established by the extraction method and by analysis of the organic phase. Amine sulfate is not significantly extracted by chloroform. It was established that Pu(IV) (is extracted) from nitrate-sulfate solutions also as a result of formation of a standard complex compound. The composition of the complex in which form Pu(IV) is extracted from nitrate-sulfate solutions was confirmed by the extraction method and the absorption spectra. It is assumed that amine sulfate is extracted from nitrate-sulfate solutions, apparently, as a result of the presence in the chloroform of a dispersed phase formed from the amine nitrate. (Author)

Elementary Particles

Aripov, R. A., Grishin, V. G.
SCATTERING OF π^- MESONS OF 7-8 GeV ENERGY ON NUCLEONS WITH LARGE MOMENTUM TRANSFERS. Nov 61 [4]p. 4 refs.
Order from OTS or SLA $1.10 62-10923

Trans. of Joint Institute for Nuclear Research (USSR) Rept. P-765, 6 July 61.

DESCRIPTORS: Elementary particles, Mesons, *Pions, *Nuclear scattering, *Nucleons, Nuclear reactions.

Nikolaev, M. N., Golubev, V. I. and others.
NEUTRON PROPAGATION IN THE NICKEL SCREEN OF A FAST REACTOR (Rasprostranenie Neitronov v Nikelvom Ekrane Reaktora na Bystrykh Neitronakh). [1962] 14p. 7 refs.
Order from OTS or SLA $1.60 AEC-tr-5413

Trans. of mono. Seminar on the Physics of Fast and Intermediate Reactors, Vienna, 3-11 Aug 61. Proceedings, v. 1, 1962, p. 65-74 (STI/PUB-49).

DESCRIPTORS: *Fast reactors, Reactor materials, *Nickel, Neutrons, Distribution, Neutron scattering, *Neutron cross sections, Radiation measurement systems.

The distribution of neutrons of various energies over the radius of a reactor's nickel screen was measured with an assembly of detectors of various energy sensitivities. The results obtained are compared with the results of a 18-group calculation carried out with a P_1 approximation. The comparison shows that the results of the experiment tally satisfactorily with the calculation. (Author)

Isotope Separation

Knyazev, D. A.
CALCUL DES COEFFICIENTS DE SÉPARATION DES ISOTOPES SE PRODUISANT LORS DE L'ÉCHANGE IONIQUE (Rastet Koeffitsientov Razdeleniya Izotopov pri Ionnom Obmene [Calculation of Isotope Separation Factors in Ion Exchange] tr. by Mme. Giuliani. 24 Mar 62 [28]p. (Russian text included) 20 refs. CEA Trans. no. R 1577 (text in French).
Order from OTS or SLA $2.60 62-33733

Trans. in French of #Zh[urnal] Fiz[icheskoi] Khim[ii] (USSR) 1961, v. 35, no. 3, p. 612-619.

DESCRIPTORS: *Isotope separation, *Ion exchange, Mathematical analysis, Ion exchange resins, Electrolytes, *Lithium, Isotopes.

A method has been developed for calculating the isotope separation factors on ion exchange in strong electrolyte solutions. The calculated values of α were very close to those found experimentally. It has been shown that ion exchange systems, including organic exchangers and strong electrolyte solutions, possess very low isotopic effects. Calculation has shown that the separation factor significantly depends upon the degree of cross-linkage of the exchanger and upon the nature and concentration of the electrolyte in the external solution. The separation of isotopes by ion exchange has been shown to be the most efficient in the case of polyvalent ions of small mass. (Author)

Schvedov, V. P. and Fu I-bei.
SÉPARATION D'ISOTOPES RADIOACTIFS SUR UNE CATHODE DE MERCURE. II. ETUDE DE LA POSSIBILITÉ D'EXTRACTION DES TERES RARES SE TROUVANT DANS UN ÉTAT BIVALENT INSTABLE [Separation of Radioactive Isotopes at a Dropping Mercury Cathode. II. Study of the Separation of Rare-Earth Elements Which Are Not Stable in the Bivalent State] tr. by Garber. 27 Mar 62 [13]p. 6 refs. CEA Trans. no. R 1499 (text in French).
Order from OTS or SLA $1.60 62-33762

Trans. in French of Radiokhimiya (USSR) 1960, v. 2, no. 2, p. 231-233.
A trans. is available in English from OTS $2.75 in AEC-tr-4576, 1962, 283p.

DESCRIPTORS: *Isotope separation, *Rare earth elements, Lanthanum, Cerium, Neodymium, Promethium, Yttrium, Erbium, Lutecium, *Mercury electrodes, Cathodes.

1°) Il a été établi que, dans des conditions déterminées les terres rares (lanthane, cérium, néodyme, prométhium, yttrium, erbium et lutétium) ayant un état bivalent instable peuvent être séparées sur cathode de mercure. 2°) On suppose que la séparation par electrolyse s'effectue par suite de la réduction de la terre rare à l'état bivalent d'abord, puis à l'état métallique, avec échange ultérieur entre le métal alcalin de l'amalgame de mercure et la terre rare. 3°) On suppose que le rendement dépend de la différence des potentiels entre le métal alcalin et la terre rare composant les amalgames.
(Author)

Schvedov, V. P. and Fu, I-bei.
SEPARATION D'ISOTOPES RADIOACTIFS SUR UNE CATHODE DE MERCURE. V. ETUDE DE LA SEPARATION DU ^{95}Nb SANS ENTRAINEUR [Separation of Radioactive Isotopes at a Dropping Mercury Cathode. V. Study of the Separation of Nb^{95} Without a Carrier] tr. by Garber. 10 Feb 62 [11]p. 6 refs. CEA Trans. no. R 1488 (text in French).
Order from OTS or SLA $1.60 62-33743

Trans. In French of Radiokhimiya (USSR) 1960, v. 2, no. 6, p. 720-722.
A trans. is available in English from OTS $2.75 in AEC-tr-4578, 1962, 249p.

DESCRIPTORS: *Isotope separation, *Niobium, Electrodeposition, *Mercury electrodes, Cathodes.

Le niobium se dépose sur une cathode de mercure lors de l'électrolyse d'une solution contenant acétates et oxalates. On a étudié les effets de divers facteurs sur le rendement. On a déterminé le régime optimum qui permet de déposer sur une cathode de mercure 98,3 pour cent de niobium en 30 minutes. (Author)

Nuclear Engineering and Power

APPLICATION OF THE ELECTRO-SLAG PROCESS TO THE WELDING OF THICK STEEL COMPONENTS UNDER WORKSHOP AND ON-SITE CONDITIONS. Quarterly rept. 1, 1 Jan-31 Mar 62, on Contract 054-61-12 RDF. [1962] [7]p.
Order from OTS or SLA $1.10 EURAEC-351

Trans. of a rept. from Chantiers de l'Atlantique Penhoet-Loire, Paris (France) n. d.

DESCRIPTORS: *Steel, *Manganese, *Molybdenum, *Sheets, Welding, Tests, Ultrasonic radiation, Nondestructive testing, Reactor materials, *Electroslag process.

NUCLEAR RESEARCH AND TECHNOLOGY IN EAST GERMANY. CHAP. 6: BASIC AND SOLID STATE MATERIALS. 11 Mar 63 [11]p. JPRS: 18066.
Order from OTS $0.50 63-21300

Trans. of Kernenergie (East Germany) 1962, v. 5, no. 9, p. 685-689.

DESCRIPTORS: Scientific research, Nuclear energy, *Reactor materials, *Solid state physics, Reactor fuels, Corrosion, *Reactor fuel processing, *East Germany.

[RESEARCH] ON VIBRATIONS AND LOSSES IN TUBULAR CLUSTERS. Quarterly rept. 7, 1 Apr-30 June 62, on Contract 083-62-1 RDF. [1962] 7p.
Order from OTS or SLA $1.10 EURAEC-395

Trans. of a rept. from Societe Grenobloise d'Etude et d'Applications Hydrauliques (France) July 62.

DESCRIPTORS: *Heat exchangers, *Reactor fuel elements, *Hydrodynamic configurations, Fluid flow, Velocity, Vibration, Frequency, Extensiometers.

An experimental study is made of the vibrations of a cluster of fuel elements immersed in a flow parallel to its axis. The cluster studied, made up of 7 tubular elements and 6 graphite bars, was assembled and fitted with extensometry guages. As the flow velocity did not reach the anticipated value (250 cm/s), because of greater losses of load than those foreseen, the vibrations of the elements, although perceptible, are too weak for it to be possible to give the law of their variation in relation to the flow velocity. Provision is made for the assembly of a "tube - cluster" group in a circuit with a greater load, where the velocity will be in the neighbourhood of 500 cm/s; ie. approximately double the velocity provided for originally. (Author) (See also EURAEC-294)

Anderson, E., Bollmann, W. and others.
THE EFFECT OF RADIATION ON THE DUCTILE-BRITTLE TRANSITION IN PRESSURE VESSEL STEELS. Quarterly rept. 6, 1 Apr-30 June 62, on Contract 041-60-12 RDS. [1962] [32]p.
Order from OTS or SLA $4.60 EURAEC-370

Trans. of a rept. from Battele Memorial Inst., Geneva (Switzerland) July 62.

DESCRIPTORS: *Pressure vessels, *Steel, Ductility, Brittleness, Neutron reactions, *Radiation effects, *Electron microscopy, Goniometers, Stereoscopes, Analytic geometry, Reactor materials.

This report is concerned with certain aspects of the electron microscopy programme. The use of a goniometer made for the SIEMENS microscope is described: a method has been developed for the stereographic analysis of micrographs employing the goniometer together with a procedure based on analytical solid geometry. The dualistic method is applied to the interpretation of dislocation networks containing precipitates. Techniques are discussed for the preparation of thin foils from irradiated material, suitable for examination by transmission electron microscopy. Detailed descriptions are given of a device for automatically detecting the end of the polishing process and of an improved specimen holder intended for electropolishing radio-active samples. (Author)

Marchuk, G. I.
METHODS OF CALCULATING NUCLEAR REACTORS: SELECTED PARTS. 21 Dec 62 [44]p. 318 refs. FTD-TT-62-1814.
Order from OTS or SLA $4.60 63-15562

Unedited rough draft trans. of mono. Metody Rascheta Yadernykh Reaktorov, Moscow, 1961, p. 2-17 and 647-661.

DESCRIPTORS: *Nuclear reactors, *Numerical methods and procedures, Bibliography.

In the monography are explained basic methods of physical calculation of nuclear reactors. Developed were algorithms for practical utilization of mathematical methods for solving various problems, originating during the planning of experimental and atomic energy installations. Given are calculated values of critical masses of reactors, which can be used in practical operation. (Author)

Zager, B. A. and Tishin, V. G.
RESONANCE HIGH-FREQUENCY DISCHARGE IN A CYCLOTRON (Rezonansnyi Vysokochastotnyi Razryad v Tsiklotrone) tr. by Marie Kassatkin. Apr 62, 40p. (foreign text included) 13 refs.
Order from OTS or SLA $3.60 UCRL Trans-818

Trans. of Joint Inst[itute] for Nuclear Research (USSR) P-811, 1961, 18p.

DESCRIPTORS: Particle accelerators, *Cyclotrons, Electric discharges, Resonance, *Plasma oscillations, *Resonators.

A mechanism and conditions for the existence of the low-voltage resonance high-frequency discharge multipactor effect are considered. The effect of this mechanism on the cyclotron operation is treated both for the supply from the high-frequency generator with independent excitation and for self-oscillation system. The appearance of the plasma high frequency discharge in the cyclotron is attributed to the multipactor effect which is confirmed by the experience gained during the adjustment and operation of the Joint Institute multiple-charged ion cyclotron. (Author)

Nuclear Reactions

Grebenshchikova, V. I. and Davidov, Yu. P.
ADSORPTION DE $Pu^{(IV)}$ SUR LA SURFACE DU VERRE [Adsorption of $Pu^{(IV)}$ on a Glass Surface] tr. by Garber. 24 Mar 62 [22]p. 14 refs. CEA Trans. no. R 1529 (text in French).
Order from OTS or SLA $2.00 62-33760

Trans. in French of Radiokhimiya (USSR) 1961, v. 3, no. 2, p. 165-172.
A preliminary unedited trans is available in English from OTS or SLA $1.60 as AEC-tr-4841 [1961] 11p.

DESCRIPTORS: *Radiochemistry, *Plutonium, Absorption, Glass, Colloids, Hydrogen ion concentration, Ion exchange.

For abstract see Technical Translations 7: 624, 1962.

Sitenko, O. G. and Kravchenko, V. F.
ON THE POSSIBILITY OF MEASURING POLARIZATION IN NEUTRON ON NEUTRON SCATTERING. [1962] 6p. 4 refs.
Order from OTS or SLA $1.10 AEC-tr-5305

Trans. of Ukrayins'kyi Fizychnyi Zhurnal (USSR) 1961, v. 6, no. 1, p. 20-23.

DESCRIPTORS: *Nuclear reactions, Neutron reactions, *Neutron scattering, *Deuterons, Polarization, Quantum statistics.

The Chew and Low method was used to determine polarization and the correlation tensor of polarization in the interaction of neutron with neutron. Analytical data obtained for the fission of a deuteron by a neutron were taken as the basis for the procedure. Derivation of the matrix for the scattering of neutron on neutron was proposed, and the experiments necessary for the study of this reaction were given. (Author)

Radioactivity

Ludwieg, F.
DETERMINING THE AGE OF FISSION PRODUCTS IN THE ATMOSPHERE, tr. by R. Presser. 1960 [11]p. 8 refs. UKAEA DEG-Inf Ser. 61 (R).
Order from OTS or SLA $1.60 62-32409

Trans. of Atompraxis (West Germany) 1959, v. 5, no. 9, p. 339-342.

DESCRIPTORS: Atmosphere, Radioactivity, *Fission products, *Radioactive decay.

The age of fission products in the atmosphere is calculated by means of the activity ratios of ^{140}Ba, ^{89}Sr and ^{90}Sr. A method for determining the decay rates of these radio-nuclides is described. The possibilities and limitations of age determination are examined with reference to tests carried out. (Author)

Peredel'skii, A. A. and Bogatyrev, I. O.
RADIOACTIVE CONTAMINATION OF LAND AREAS BY INSECTS EMERGING FROM CONTAMINATED WATER BODIES. 26 Feb 63 [13]p. 19 refs.
JPRS: 17812.
Order from OTS $0.50 63-21201

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1959 [v. 24] no. 2, p. 186-192.

DESCRIPTORS: *Radiological contamination, *Insects, Health physics, *Radioactive waste, Disposal, Water, Contamination, Ecology, Radiobiology.

PHYSICS

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 112 (PHYSICS AND MATHEMATICS SERIES). 25 Mar 63 [24]p.
JPRS: 18326.
Order from OTS $0.75 63-21408

Consists of abstracts of articles from the scientific and technical journals of Bulgaria, Czechoslovakia, and Hungary.

DESCRIPTORS: *Abstracts, Literature, *Bulgaria, *Czechoslovakia, *Hungary, *Physics, Mathematics, Applied mathematics, Nuclear physics, Astronomy, Biophysics.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 49 (PHYSICS SERIES). 25 Mar 63 [28]p. JPRS-18322.
Order from OTS $0.75 63-21404

Trans. of selected abstracts from Referativnyi Zhurnal. Fizika (USSR) 1962, nos. 10-12.

DESCRIPTORS: *Abstracts, Literature, *China, *Physics, Nuclear physics, Electronics, Semiconductors, Semiconductor devices, Spectroscopy, Luminescence, Photochemistry, Solid state physics, Polymers.

ENGINEERING PHYSICS JOURNAL, 1961, VOL. 4, NO. 3: SELECTED ARTICLES. 29 Jan 62 [25]p. 12 refs. FTD-TT-61-321; AD-271 848.
Order from OTS or SLA $2.60 62-19284

Unedited rough draft trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 3, p. 10-17 and #39-45.
#Another trans. is available from OTS $0.50 as 61-31682, APL/JHU TG 230-T246, 30 Aug 61, 9p.;
#An abstract trans. is available from OTS or SLA $1.10 as 61-23489, AID-61-80, 23 May 61, 3p.

DESCRIPTORS: *Heat transfer, *Fluid flow, Laminar boundary layer, Pipes, *Liquid metals, Mercury, *Gas flow, Gases, *Combustion, Ignition, Sheets, Surfaces.

Contents:
Calculation of heat transfer during laminar flow of a fluid in pipes within a range of small peclet numbers, by B. S. Petukhov and F. F. Tsvetkov
Flow past a plate by a gas burning on its surface, by L. Yu. Artyukh and others.

Goshchitskii, B. N. and Izrailevich, I. S.
THE "NEGATIVE" CONCENTRATION EFFECT IN THERMAL DIFFUSION OF GASES IN POROUS MEDIA. 18 Mar 63 [8]p. 5 refs. JPRS: 18180.
Order from OTS $0.50 63-21343

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 4, p. 817-818.

DESCRIPTORS: Gases, *Hydrogen, *Helium, *Argon, *Krypton, *Thermal diffusion separation, Porous materials, Barium compounds, Ferrites.

A study was made of the separation effect of the gaseous mixtures H_2-Ar, H_2-Kr and He-Kr that occurs upon their passage through a porous medium in the presence of a temperature gradient.

Kolmogorov, A. N.
STATISTICAL THEORY OF OSCILLATIONS WITH A CONTINUOUS SPECTRUM. [1961] 12p. 17 refs. MDF K 128.
Order from OTS or SLA $1.60 62-23122

Trans. of mono. Jubilee Collection, pub. by Akad[emiya] Nauk Press, 1947, p. 242-252.
Another trans. is available from SLA on loan as R-02070.

DESCRIPTORS: *Oscillators, *Oscillation, *Probability, Complex variables, Real variables, Fourier analysis, Series, Integrals, *Continuous spectrum, Harmonic analysis.

Electricity and Magnetism

Angelopoulos, Michael.
A DIRECT CURRENT ARC WITH RAPID TRANSLATIONAL MOTION CAUSED MAGNETICALLY. [1962] 20p. (figs. omitted) 6 refs.
Order from SLA $1.60 62-18261

Trans. of [ETZ] Elektrotechn[ische] Z[eitschrift. Ausgabe A. Zentralblatt für Elektrotechnik] (West Germany) 1958, v. 79, no. 16, p. 572-576.

DESCRIPTORS: Direct current, *Electric arcs, *Electric switches, Magnetic fields, Switches.

Levitov, V. I., Lyapin, A. G. and others.
A METHOD FOR PROBE STUDIES OF A D-C CORONA FIELD USING AN OSCILLOGRAPH. 3 Jan 63, 17p. 4 refs. FTD-TT-62-1530.
Order from OTS or SLA $1.60 63-15544

Unedited rough draft trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Energetika i Avtomatika, 1962, no. 2, p. 47-54.

DESCRIPTORS: Electric discharges, *Electrical corona, Electric fields, *Direct current, Measurement, *Measuring devices (Electrical and electronic), *Oscillographs, Circuits.

Perroi, Marcel and David, Jean-Pierre.
ELECTRICITY: VARIATIONS IN THE OHM LAW OF VERY THIN METALLIC FOILS. [1961] 3p. 3 refs.
Order from SLA $1.10 62-14077

Trans. ofAcademie des Sciences, [Paris]. [Comptes Rendus] (France) 1953 [v. 237, no. 17] p. 1641-1643 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: Electricity, *Foils, *Resistance (Electrical).

Rodichev, G. M. and Kim, P. D.
A METHOD FOR THE STUDY OF THE BARKHAUSEN EFFECT. [1962] 5p. 4 refs.
Order from OTS or SLA $1.10 62-32242

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1962, no. 1, p. 130-135.

DESCRIPTORS: *Ferromagnetism, Ferromagnetic materials, *Magnetic moments, Thin films, Iron, Electric potential, Distribution, Pulse integrators, Coils.

This paper describes the experimental equipment for the study of the distribution of impulse voltage obtained from the Barkhausen jump as a function of duration as well as the distribution pattern of jumps as a function of the magnetic moment by integrating the impulses of the jumps. The influence of the parameters of the measuring coil upon the duration of the impulses due to sudden changes in the magnetization of the sample is also given. Original data is given for the duration of jumps in the magnetization of an iron film 5000 Å thick. (Author)

Savin, Ch., Dumitrescu, Svetlana and others.
ON THE MAGNETIC PROPERTIES OF THE THICK LAYERS OF NICKEL DEPOSITED ELECTROLYTICALLY IN A MAGNETIC FIELD. [1962] 5p.
Order from K-H $6.25 K-H 11477

Trans. of Inst[itutul] Politehnic, Iasi. Bul[etinul] (Rumania) 1959, v. 5(9) p. 3-4.
Another trans. is available from SLA $1.10 as 62-20256 [1962] 5p.

DESCRIPTORS: *Nickel, Electrodeposition, *Magnetic properties, Magnetic fields.

Electronics

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 115 (ELECTRONICS, ENGINEERING, AND SPACE RESEARCH SERIES). 25 Mar 63 [10]p. JPRS: 18329.
Order from OTS $0.50 63-21411

Abstract trans. of Sdelovaci Technika (Czechoslovakia) 1963, v. 40, no. 1, p. 2-12, 15-27, 38-41.

DESCRIPTORS: *Abstracts, Literature, *Czechoslovakia, *Electronics, Engineering, Ceramic capacitors, Data transmission systems, Modulation, Language, Lasers, Cooling and ventilating equipment, Coils, Very high frequency, Electromagnetic waves, Electroplating, Noise (Radio), Suppressors, Nomographs.

Klement'ev, F. M.
ON THE INFLUENCE OF THE ELECTRON TRANSIT ANGLE IN A TUBE ON THE SYNCHRONIZING EFFECT OF THE EXTERNAL SIGNAL. [1961] 6p. 3 refs. MDF K-164.
Order from OTS $0.50 62-11203

Trans. of Radiotekh[nika] i Elektr[onika] (USSR) 1956, v. 1, no. 9, p. 1284-1287.

DESCRIPTORS: *Reflex klystrons, Klystrons, *Oscillators, Oscillation, *Synchronization (Electronics), Electric potential, Potential theory, *Electron transitions.

Stationary processes are analyzed in a reflex klystron oscillator being acted upon by an external harmonic emf. It is shown that the amplitude curve for a reflex klystron with transit angles different from the optimum is deformed and deflected. Conditions are derived for the synchronization stability. (Author)

Koechlin, Y., Pelchowitch, I., and Robozinski, A.
ELECTRONICS: THE ORIGIN OF HIGH-AMPLITUDE IMPULSES IN THE BACKGROUND NOISE OF A PHOTOMULTIPLIER, tr. by Bertha P. Klenova. 18 Mar 54, 3p. 3 refs. TVA 3267.
Order from OTS or SLA $1.10 62-32261

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1954, v. 238, p. 660-662 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: Electronics, *Photomultipliers, Thermionic emission, Amplitude modulation, Noise (Radio).

The glass of the photomultiplier (EMI-6260) produces scintillations with the yield of about 1 per cent of that of anthracene. The major portion of the high amplitude impulses which subsist in the background noise of a refrigerated tube may be attributed to the K^{40} present in the glass. (Author)

Kulikovskii, A. G. and Lyubimov, G. A.
ON POSSIBLE TYPES OF DISCONTINUITIES WITH CONDUCTION. [1959] 3p. 3 refs. MDF K-193.
Order from OTS $0.50 62-11274

Trans. of A[kademiya] N[auk] SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izv[estiya]: Mekh[anika] i Mash[inostroyenie] 1959, no. 4, p. 130-131.

DESCRIPTORS: *Gas flow, Conductivity, *Electromagnetic waves, Propagation, *Electromagnetic fields, Intensity, Magnetohydrodynamics, Equations of motion, Parital differential equations.

Lyubarskii, G. Ya. and Polovin, R. V.
SIMPLE MAGNETOSONIC WAVES. [1958] 4p. 2 refs. MDF L-123.
Order from OTS $0.50 62-11295

Trans. of Ukr[ayins'kyi] Fiz[ychnyi] Zh[urnal] (USSR) 1958, v. 3, no. 5, p. 567-570.

DESCRIPTORS: *Magnetohydrodynamics, *Acoustics, Inequalities.

It is shown that, just as in ordinary hydrodynamics, the phase velocity of simple magnetosonic waves increases as the density increases under compliance with the inequality $\left(\frac{\partial^2}{\partial \rho^2}\frac{1}{\rho}\right)_s > 0$
This fact is used for a qualitative investigation of the time variation of simple waves. Conditions are found for the formation of discontinuities, which agree with a known criterion. It is shown that self-similar waves are always rarefraction waves. The time dependence of the density is given in a Lagrangian representation. (Author)

Molecular Physics and Spectroscopy

X-RAY AND OPTICAL SPECTRA: ANNOTATED BIBLIOGRAPHY OF SOVIET LITERATURE. Preliminary rept. on work assignment no. 43, task 2. 11 Jan 63 [135]p. 70 refs. AID Rept. B-63-10.
Order from OTS or SLA $10.50 63-15433

DESCRIPTORS: *Biblographies, *X-ray spectroscopy, *Solar radiation, Wave analysis, *Electron transitions, Line spectrum, Tables, Ultraviolet spectroscopy, Absorption spectra, *Optical spectrometers.

Al'tshuler, S. A. and Kozyrev, B. M.
ELECTRON PARAMAGNETIC RESONANCE. 14 Jan 63 [475]p. 1048 refs. FTD-TT-62-1086.
Order from OTS or SLA $23.50 63-15571

Unedited rough draft trans. of mono. Elektronnyi Paramagnitnyi Rezonans, Moscow, 1961, 368p.

DESCRIPTORS: *Paramagnetic resonance, *Microwave spectroscopy, *Radiofrequency spectroscopy, *Crystals, Ions, Group XIII elements, Rare earth elements, Actinide series, Valence, Electrolytes, *Nuclear spins, Lattices, *Semiconductors, *Crystal lattice defects, Impurities, Color centers, *Free radicals.

The book contains a complete survey of research in the field of electron paramagnetic resonance. The most detailed treatment has been given to the theoretical and experimental results pertaining to ionic crystals. It is intended for senior and graduate students as well as for scientists working in physics, radio, chemistry, and biology. (Author)

Hintenberger, H. and Dörnenburg, E.
APPLICATION OF MASS SPECTROMETRY IN VACUUM TECHNOLOGY, PT. I. (Anwendung der Massenspektroskopie in der Vakuumtechnik, I. Teil). [1962] [42]p. (foreign text included) 49 refs.
Order from SLA $4.60 62-18538

Trans. of Vakuum-Technik (West Germany) 1958, v. 7, no. 6, p. 121-130

DESCRIPTORS: *Mass spectroscopy, *Spectrum analyzers, Vacuum apparatus, Ions, Production, Detection, Ion beams, Vapor pressure, Mass spectrum

(See also 60-18195)

Kol'tsov, V. V.
MEASUREMENTS OF THE COEFFICIENTS OF SPECTRAL BRIGHTNESS IN CONDITIONS OUTSIDE THE LABORATORY (Izmereniya Koeffitsientov Spektral'noi Yarkosti vo Vnelaboratornykh Usloviyakh) tr. by G. T. Cranford. May 61 [10]p. 12 refs. DSIR Library communication no. 967; NLL M. 3615.
Order from OTS or SLA $1.10 62-25282

Trans. of Svetotekhnika (USSR) 1960, v. 6, no. 12, p. 8-12.

DESCRIPTORS: *Aerial reconnaissance, *Geophysical prospecting, Brightness, Measurement, *Spectrophotometers, Airborne, Recording systems.

Tal'roze, V. L.
ON AN OPTIMUM LAW OF THE AUTOMATIC SWEEP OF MASS-SPECTRA. [1961] 3p. 1 ref. MDF T-100.
Order from OTS $0.50 62-11209

Trans. of Zh[urnal] Tekh[nicheskoi] Fiz[iki] (USSR) 1955, v. 25, no. 13, p. 2280-2281.

DESCRIPTORS: *Mass spectrum, Numerical analysis, Mass spectroscopy, Spectrum analyzers.

Veits, I. V. and Gurvich, L. V.
DISSOCIATION ENERGIES OF OXIDES OF MAGNESIUM, CALCIUM, STRONTIUM, AND BARIUM (Energii Dissoziazii Okislov Magniya, Kalziya, Stronziya i Bariya) tr. by D. A. Nimidoff. Aug 61, 22p. 31 refs.
Order from OTS or SLA $2.60 UCRL Trans-706

Trans. of Optika i Spektroskopiya (USSR) 1956, v. 1, no. 1, p. 22-33.
Another trans. is available from OTS or SLA $2.60 as 62-18331 [1962] 25p.

DESCRIPTORS: *Oxides, *Magnesium compounds, *Calcium compounds, *Barium compounds, *Strontium compounds, Dissociation, Reaction kinetics, Flames, Molecular association, Stereochemistry, Spectrographic analysis, Thermodynamics

Optics

Borries, B. v.
THE ENERGY DATA AND LIMITS OF ELECTRON MICROSCOPY, PT. II (CONCLUSION). [1962] 27p. (figs. omitted) 31 refs.
Order from SLA $2.60 62-16518

Trans. of Optik (West Germany) 1948, v. 3, p. 389-412.

DESCRIPTORS: *Electron microscopy, Energy, Electron optics, Electron guns, Electron microscopes, Resolution, Focusing

Contents:
Results of the investigation of practical electron guns
The condenser aperture
The brightness and sharpness of the final image
The significance of the energy limits for electron microscopy

Heynacher, E.
SOME REMARKS ON THE PROBLEM OF JUDGING THE QUALITY OF THE OPTICAL IMAGE. [1962] 7p. 6 refs.
Order from SLA $1.10 62-10974

Trans. of Optica Acta (France) 1960, v. 7, p. 173-178.

DESCRIPTORS: *Optical images, Test methods, Transmission, *Optical systems, Quality control.

Suitable criteria and methods for judging image quality are considered, particularly the difficulties arising from the transmitting the image through the eye of the observer. (Author)

Kard, P.
TOWARD THEORY OF ABSORPTION OPTICAL COATINGS (K Teorii Pogloshchayushchikh Opticheskikh Pokritii) tr. by Zanis Stuberovskis. 25 Jan 62 [14]p. 5 refs. E-T-R-61-10.
Order from OTS or SLA $1.60 62-25084

Trans. of Akademiya Nauk Estonskoi SSR [Tallinn]. Izvestiya. Seriya Tekhnicheskikh i Fiziko-Matematicheskikh Nauk, 1960, v. 9, no. 3, p. 250-255.

DESCRIPTORS: Optical materials, Optical glass, *Optical coatings, Absorption, Theory.

The behaviour of the quantities $b\,b^* - a\,a^*$ and $a'\,b - a\,\tilde{b}$ is investigated. Here $a = \frac{1}{t}$, $b = \frac{r}{t}$, and r, d are the amplitude reflectance and transmittance of the coating. The tilde denotes the conjugated coating, having the complex conjugated values of the refractive indices of all media. It is found that the above quantities depend only on the part of the coating beginning with the

first absorption layer and on the backing medium. These results are applied to the theory of the improvement of absorption optical coatings. Here by improvement is meant the reduction of the ratio --- of the coefficient of absorption, A, and the coefficient of transmission, D, of the coating. The improvement of a given absorption coating may be obtained by means of two additional non-absorption coatings. (Author)

Khapalyuk, A. P. and Stepanov, B. I.
CONDITIONS FOR GENERATING RADIATION BY A PLANE-PARALLEL PLATE, tr. by B. W. Kuvshinoff. 4 Feb 63, 3p. 2 refs. APL/JHU TG 230-T340.
Order from OTS $0.50 63-11573

Trans. of Akademiya Navuk BSSR [Minsk]. Vestsi. [Seryya Fizika-Tekhnichnykh Navuk] 1961, no. 4, p. 132-133.

DESCRIPTORS: *Light, *Electromagnetic waves, Wave transmission, Reflection, Optical phenomena, Partial differential equations.

A report on the conditions necessary for generating radiation, obtained by rigorous [sic] solution of Maxwell's equations.

Kondrat'ev, K. Ya., Mironova, Z. F. and others.
APPARATUS FOR MEASURING THE SPECTRAL COMPOSITION OF RADIATION. 22 Jan 62, 5p. AID Rept. 62-9; AD-271 545.
Order from OTS or SLA $1.10 62-19117

Abstract trans. of mono. Vsesoyuznoe Soveshchanie po Svetovomu Klimatu (no. 2) Moscow, 1960. Trudy (All-Union Conference on Illumination Conditions) Moscow, 1961, p. 19-31.

DESCRIPTORS: *Spectrophotometers, Reflectometers, *Photomultipliers, Amplifiers.

Instruments were prepared for studying the spectral composition of total and diffused radiation, spectral brightness, transparency of atmospheric layers, and spectral albedo by adding accessories of already existing lotproduced optical instruments. (Author)

Robillard, Jean Jules Achille.
PROCESS AND DEVICE FOR OBTAINING A VISIBLE INDICATION OF A RADIATION ON AN ELECTRO-SENSITIVE MEDIUM. [1962] 25p. (figs. omitted).
Order from OTS or SLA $2.60 62-16394

Trans. of French patent 1,172,832, gr. 12,-cl. 2, internat. cl. G 01 j - G 03 c, appl. 6 Mar 57, granted 20 Oct 58, pub. 16 Feb 59 (pat. appl. filed U. S., 8 Mar 56 in the name of applicant).

DESCRIPTORS: Light, Infrared radiation, Ultraviolet radiation, X-rays, Detection, Photosensitivity, Photoconductivity, Semiconductors, *Optical images, Images, Production, *Electromagnetic waves.

Solid State Physics

SILICON CARBIDE [AND] SILICON AND OTHER SINGLE CRYSTALS: ANNOTATED BIBLIOGRAPHY BASED ON SOVIET OPEN LITERATURE (PRELIMINARY). 24 Oct 62 [36]p. 86 refs. AID rept. 62-170; AD-287 218.
Order from OTS or SLA $3.60 63-13052

DESCRIPTORS: *Bibliography, *Ceramic materials, *Silicon, Cermets, Silicon compounds, Carbides, Electrical properties, Crystal structure, Physical properties, *Germanium, Semiconductors.

SOLID STATE PHYSICS, 1962 [VOL. 4] NO. 9: [SELECTED] TRANSLATIONS. 7 Mar 63 [25]p. 17 refs. JPRS: 18008.
Order from OTS $0.75 63-21272

Trans. of #Fizika Tverdogo Tela (USSR) 1962, v. 4, no. 9, p. 2447-2449 and 2585-2596.

DESCRIPTORS: *Solid state physics, Literature, Silicon, Crystals, Crystal structure, Optical analysis, Polarization, Gold, Absorption, Elasticity, Anisotropy, Symmetry (Crystallography), Stresses, Vector analysis, Atoms, Impurities.

Contents:
Edge dislocation climb in silicon under action of gold, by L. S. Milevskii
A straight-line dislocation near the plane of discontinuity of elastic constants in an unlimited anisotropic medium, by L. A. Pastur and others
Conditions of dislocation pinning in clusters, by B. A. Grinberg.

Abdusadykov, T. A.
AN INVESTIGATION OF LUMINESCENCE CENTERS IN ALKALI HALIDE PHOSPHORS WITH DIFFERENT CONCENTRATIONS OF ACTIVATOR AND MICRO-DEFECTS OF THE HOST LATTICE. I. PHOSPHORS ACTIVATED WITH THALLIUM. [1962] 27p. 35 refs.
Order from OTS or SLA $2.60 AEC-tr-5002

Trans. of Akad[emiya] Nauk Eston[skoi] SSR [Tallinn]. Inst[itut] Fiz[iki] i Astron[omii]. Trudy, 1959, no. 10, p. 97-121

DESCRIPTORS: *Phosphors, *Alkali metal compounds, Halides, *Thallium, *Crystal lattice defects, Emissivity, Excitation, Absorption spectrum, Deformation, Impurities.

The emission, excitation, and absorption spectra of alkali halide phosphors activated with thallium are investigated with reference to different concentrations of the activator and natural defects of the host substance. It is shown that in monoactivated phosphors there are luminescence centers of at least two types. Their nature is discussed. (Author)

Akimov, I. A. and Putseiko, E. K.
EFFECT OF THE ADSORPTION OF IODINE VAPOR ON THE NATURAL AND DYE-SENITIZED PHOTOEFFECTS OF SILVER AND THALLIUM IODIDES. [1963] 5p.
Order from ATS $8.50 ATS-69P66R

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1955, v. 102, no. 3, p. 481-484.

DESCRIPTORS: *Vapors, *Adsorption, *Iodine, *Photosensitivity, *Silver, Iodides, *Thallium compounds.

Alekseena, V. G. and Nad', F. Ya.
KINETICS OF PHOTOCONDUCTIVITY OF N-TYPE GERMANIUM DOPED WITH GOLD. 31 May 62 [8]p. 3 refs. USASIA Trans. Log no. 1344.
Order from OTS or SLA $1 10 62-25571

Trans. of #Radiotekhnika i Elektronika (USSR) 1962 [v. 7] no. 3, p. 542-546.

DESCRIPTORS: *Germanium, *Gold, Recombination reactions, *Photoconductivity, Reaction kinetics, Impurities, Antimony.

This paper presents the results of an investigation of photoconductivity of n-type germanium doped with gold and a compensating donor impurity, antimony. (Author)

Amelinckx, S. and others.
PHYSICAL PROPERTIES OF UO_2 CRYSTALS. Quarterly rept. no. 1, 1 Oct-31 Dec 61 on Contract 063-61-10-RDB. [1962] 24p. 28 refs.
Order from OTS or SLA $2.60 EURAEC-266

Trans. of a rept. from Centre d'Étude de l'Énergie Nucléaire, Mol (Belgium) n.d.

DESCRIPTORS: *Uranium compounds, *Dioxides, *Single crystals, *Physical properties, Radiation effects, Crystal lattices, Thermal conductivity, Electrical properties, Semiconductors.

Appel, J. and Lautz, G.
SOME ELECTRICAL PROPERTIES OF THE SEMICONDUCTING TELLURIUM COMPOUNDS: In_2Te_3, CdTe, AND Ag_2Te (Über Einige Elektrische Eigenschaften der Halbleitenden Tellurverbindungen In_2Te_3, CdTe und Ag_2Te). [1962] [13]p. (foreign text included) 4 refs.
Order from SLA $1.60 62-18813

Trans. of Physica (Netherlands) 1954 [ser. 2] v. 20, no. 11, p. 1110-1114.

DESCRIPTORS: *Semiconductors, *Tellurium compounds, *Indium compounds, *Cadmium compounds, *Silver compounds, Tellurides, Electrical properties, Chemical bonds, Lattices.

Some electrical properties of these compounds are shown and discussed with the aid of the results of measurements. On the basis of these investigations, conclusions are drawn with regard to the chemical bonding between the components particularly in the case of Ag_2Te. The saturation of the outer electron shells of the components is common to the three compounds under investigation, and thus the existence of filled Brillouin zones has as consequence a distinct semiconductor character even in intermetallic compounds such as CdSb. (Author)

Belyaev, L.
CRYSTALLOGRAPHY AND TECHNOLOGY. 7 Mar 63 [10]p. JPRS: 18012.
Order from OTS $0.50 63-21275

Trans. from Vechernaya Moskva (USSR) 1963, 19 Jan, p. 2.

DESCRIPTORS: *Crystals, Energy conversion, Crystal growth, Optical materials, Semiconductors.

Evstrop'ev, K. S.
RELATION BETWEEN STRUCTURE AND PROPERTIES OF GLASS. 9 Oct 62 [17]p. 15 refs. FTD-TT-62-1213; AD-287 713.
Order from OTS or SLA $1.60 63-13169

Unedited rough draft trans. of mono. [Structure of Glass] Trudy Tret'ego Vsesoyuznogo Soveshchaniya (All-Union Conference on the Glassy State (no. 3) Leningrad, 16-20 Nov 59) n.p., n.d., p. 39-48.

DESCRIPTORS: *Glass, Molecular structure, Phsyical properties, Viscosity, Electrical conductance, Dielectric properties, Silicates, Borates, Phosphates.

Heiland, G.
THE PREPARATION AND PROPERTIES OF CLEAN SEMICONDUCTOR SURFACES. [1962] 127p. 122 refs.
Order from SLA $10.10 63-10771

Trans. of Fortschritte der Physik (Germany) 1961, v. 9, p. 393-454.

DESCRIPTORS: Cleaning, *Semiconductors, Electrical conductance, Vacuum systems, Hall effect, Diffraction analysis, Surface properties, Crystal lattices, Space charges, Ion bombardment, Adsorption, Work functions, Tables, *Germanium, *Silicon, Oxygen.

Izyumov, Yu. A.
SPIN-WAVE THEORY OF MAGNETIC RESONANCE ABSORPTION IN AN ANTIFERROMAGNETIC METAL [1961] 16p. 19 refs. MDF I-131.
Order from OTS or SLA $1.60 62-23189

Trans. of #Fiz[ika] Met[allov] i Metallov[edenie] (USSR) 1961, v. 11, no. 5, p. 650-663.

DESCRIPTORS: Electrons, *Spin, Resonance, *Resonance absorption, Antiferromagnetism, *Transition elements, Theory.

A theory of time dispersion of the magnetic susceptibility of an antiferromagnetic metal in the radio-frequency range of the spectrum is developed. It is assumed that two magnetic subsystems can be distinguished in such a metal: conduction electrons and localized electrons of the spin-unsaturated ion shells. It is shown that the exchange interaction between them leads to distortion of the resonance lines, which are assumed to be Lorentzian in the absence of interaction. The role of magnetic anisotropy in the exchange relaxation processes is investigated. (Author)

Kazantsev, V. A.
INVESTIGATION OF THE K_β GROUP OF THE X-RAY SPECTRUM OF IRON AND CHROMIUM IN α - AND σ - PHASES OF Fe-Cr ALLOYS, tr. by S. Klemantaski. May 59 [6]p. 1 ref. BISI Trans. no. 1266; [DSIR] NLL M. 4578
Order from OTS or SLA $1.10 62-24221

Trans. of Akademiya Nauk SSSR. Doklady, 1955, v. 101, no. 3, p. 477-478.

DESCRIPTORS: *Chromium alloys, *Iron alloys, Phase studies, X-ray spectrum.

Lyashenko [V. I.] and others.
EFFECT OF AN ELECTRIC FIELD ON SORPTION PROCESSES ON THE SURFACE OF GERMANIUM (Vpliv Elektrichnogo Polya na Sorbtsiyni Protsesy na Poverkhni Germaniyu) tr. by H. H. 6 Feb 63, 5p. 4 refs. I-7071.
Order from OTS $0.50 63-11574

Trans. of Akademiya Nauk URSR, Kiev. Dopovidi, 1962, no. 3, p. 350-352.

DESCRIPTORS: *Germanium, Surface area, *Sorption, Electric fields, *Semiconductors, Catalysis.

Ptushinskii, Yu. G. and Lupan, Yu. A.
ON THE QUESTION REGARDING THE SIGN OF ELECTROCONDUCTIVITY OF EVAPORATED GERMANIUM FILMS (O Pitannya pro Znak Elektroprovidnosti Napilenikh Plivok Germaniyu) tr. by A. Pingell. 1962 [3]p. 4 refs. N R L Trans. no. 890.
Order from OTS or SLA $1.10 62-24530

Trans. of Ukrayins'kyi Fizychnyi Zhurnal (USSR) 1959, v. 4, no. 1, p. 125.
Another trans. is available from OTS or SLA $1.10 as 62-18092 [1962] 2p.

DESCRIPTORS: *Thin films, Metal powders, *Germanium, Electrical conductance.

For abstract see Technical Translations 8: 1064, 1962.

Putseiko, E.
APPLICATION OF CONDENSER METHOD FOR STUDY OF INTERNAL PHOTO EFFECT OF SENSITIZERS. [1962] 4p. 5 refs.
Order from OTS or SLA $1.10 62-20461

Trans. of Akad [emiya] Nauk SSSR. Dokl [ady] 1948, v. 59, no. 3, p. 471-474.

DESCRIPTORS: *Semiconductors, Photoconductivity, Photosensitivity, Capacitors, *Photoelectric effect, Dyes.

Putseiko, E. K.
EFFECT OF VAPORS AND GASES ON THE INTERNAL PHOTOEFFECT OF OXIDE SEMICONDUCTORS AND THEIR SENSITIZATION WITH CHLOROPHYLL. [1963] 10p.
Order from ATS $13.85 ATS-70P66R

Trans. of Radiotekhn[ika] i Elektron[ika] (USSR) 1956, v. 1, no. 10, p. 1364-1373.

DESCRIPTORS: *Vapors, *Gases, Oxides, *Photosensitivity, *Semiconductors, *Chlorophyll.

Samsonov, G. V. and Sleptsov, V. M.
A TENTATIVE PHASE DIAGRAM OF THE BORON-SILICON SYSTEM. Jan 63, 950 words.
Order from HB $3.40 HB-5813

Trans. of Akad[emiya] Nauk URSR [Kiev]. Dopovidi, 1962, no. 8, p. 1066-1067.

DESCRIPTORS: *Boron, *Silicon, Microstructure, X-ray diffraction analysis, Calorimetry, Phase studies.

Schneider, Jürgen and Räuber, Armin.
THE PARAMAGNETIC RESONANCE OF DONORS IN ZINC OXIDE (Paramagnetische Resonanz von Donatoren in Zinkoxyd) tr. by C. H. Amberg. 1963, 6p. 8 refs. NRCC Technical trans. 1061.
Order from NRCC $0.50 NRCC C-4308

Trans. of Zeitschrift für Naturforschung (West Germany) 1961, v. 16a, p. 712-714.

DESCRIPTORS: *Metal crystals, Powders, *Zinc compounds, *Oxides, Impurities, *Paramagnetic resonance, Spectroscopy.

Strelkov, P. G. and Shpunt, A. A.
DEPENDENCE OF THE STRENGTH OF FRACTURE WHISKERS ON THEIR SIZE. 19 Feb 63 [8]p. 8 refs. JPRS: 17725.
Order from OTS $0.50 63-21170

Trans. of #Fizika Tverdogo Tela (USSR) 1962, v. 4, no. 8, p. 2258-2261.

DESCRIPTORS: *Whiskers (Crystallography), *Lithium compounds, Fluorides, Mechanical properties, Fracture (Mechanics), *Crystal lattice defects.

The results of an investigation of the variation of the strength of the fracture whiskers of lithium fluoride as a function of the cross-sectional dimension are presented.

Tolstoi, N. A. and Shatilov, A. V.
FORMAL ANALYSIS OF THE THEORY OF TWO-STAGE EXCITATION OF PHOSPHORESCENCE AND PHOTOCONDUCTIVITY. I. STATIONARY RELATIONSHIPS (Formal'nyi Analiz Teorii Dvukhstupenchatogo Vozbuzhdeniya Fosforestsentsii i Fotoprovodimosti. I. Statsionarnye Zavisimosti) tr. by M. E. 11 Feb 63, 16p. 8 refs. I-8143.
Order from OTS $0.50 63-11579

Trans. of Optika i Spektroskopiya (USSR) 1956, v. 1, no. 2, p. 216-229.
Another trans. is available from OTS or SLA $2.60 as 62-16522 [1962] 22p.

DESCRIPTORS: *Phosphorescent materials, *Phosphorescence, *Photoconductivity, *Excitation, Theory, Recombination reactions, Quenching (Inhibition), Electron transitions, Probability, Semiconductors.

For abstract see Technical Translations 8: 1185, 1962.

Tsien, Chi-tsiang.
ON THE MECHANISM OF THE INTERNAL FRICTION PEAK OF INTERSTITIAL ATOMS IN THE FACE-CENTRED CUBIC CRYSTAL. Aug 59 [9]p. 13 refs. BISI Trans. no. 1397; [DSIR] NLL M. 4735.
Order from OTS or SLA $1.10 62-24234

Trans. of [Chin Shu Hsüeh Pao] (Chinese People's Republic) 1959, v. 4, no. 1, p. 69-74.

DESCRIPTORS: Crystals, *Crystal lattices, *Internal friction, Nickel, *Metallic crystals, Carbon, Atoms, Diffusion.

Zhurkov, S. N. and Tomashevskii, E. E.
INVESTIGATION OF THE HARDNESS OF SOLID BODIES. II. DEPENDENCE OF DURABILITY ON PRESSURE [Issledovanie Prochnosti Tverdykh Tel. II. Zavisimost' Dolgovechnosti ot Napryazhenniya]. [1961] 11p. 16 refs. MDF Z 106.
Order from OTS or SLA $1.60 62-23179

Trans. of Zh[urnal] Tekh[nicheskoi] Fiz[iki] (USSR) 1955, v. 25, no. 1, p. 66-73.

DESCRIPTORS: *Solids, Hardness, *Mechanical properties, Pressure, Plastics, Nitrocellulose, Acrylic resins, Cellulose acetates, Metals, Zinc, Aluminum.

Thermodynamics

Datsev, A. B.
ON THE THREE DIMENSIONAL STEFAN PROBLEM [O Trekhemernoi Zadache Stefana]. [1961] 6p. 4 refs. MDF D 102.
Order from OTS $0.50 62-11213

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1955, v. 101, no. 4, p. 629-632.

DESCRIPTORS: Thermodynamics, Cooling, *Heat transfer, Numerical analysis, *Partial differential equations.

The solution of the 2-dimensional cooling problem (Akad. Nauk SSSR Doklady 101: 441-444, 1955) is generalized to the 3-dimensional case.

Feussner, Otto.
NOBLE METAL THERMOCOUPLES WITH HIGH THERMOELECTRIC FORCE. [1962] 9p. (figs. omitted)
Order from SLA $1.10 62-18282

Trans. of [ETZ] Electrotechnische Zeitschrift. [Ausgabe A. Zentralblatt für Elektrotechnik] (Germany) 1927 [v. 48] no. 16, p. 535-537.

DESCRIPTORS: *Thermocouples, Materials, Alloys, *Thermoelectricity, Economics.

Corresponding to their position in the periodic table of elements, alloys of gold and silver with palladium and platinum have thermoelectric forces against copper and other metals of comparable magnitude to that of the well-known alloy constantan (copper-nickel). After the discussion of general points a new alloy is described which was used in the preparation of a new noble metal thermocouple with high thermoelectric force. The economic advantages are pointed out. (Author)

Filippov, L. P.
ON THE QUESTION OF THE TRANSPORT OF RADIANT ENERGY IN A MEDIUM [K Voprosu o Perenose Luchistoi Energii v Srede]. [1961] 4p. 7 refs. MDF F-108.
Order from OTS or SLA $1.10 62-23113

Trans. of A[kademiya] N[auk] SSSR. Otd[elenie] Tekh[nicheskikh] Nauk. Izvestiya, 1955, no. 1, p. 155-156.

DESCRIPTORS: *Heat transfer, *Thermal radiation, Absorption, Fourier analysis

Gersh, S. Ya.
CALCULS THERMIQUES ET MÉCANIQUES DES ECHANGEURS DE CHALEUR FONCTIONNANT À TRES BASSES TEMPERATURES [Thermal and Mechnical Calculations of Heat Exchangers Operating at Very Low Temperatures] tr. by de Trezvinsky. 3 Mar 62 [24]p. CEA Trans. no. R 1573 (text in French).
Order from OTS or SLA $2.60 62-25659

Trans. in French of mono. Technique des Basses Temperatures [Technique of Low Temperatures] Moscow, 1960, chap. 5.

DESCRIPTORS: *Heat exchangers, Mathematical analysis, Thermodynamics, Mechanics, *Low temperature research.

Kirillin, V. A. and Ulybin, S. A.
DÉTERMINATION EXPERIMENTALE DES VOLUMES SPÉCIFIQUES DE L'EAU LOURDE [Experimental Determination of Specific Volumes of Heavy Water] tr. by de Trezvinsky. 24 Mar 62 [18]p. 6 refs. CEA Trans. no. R 1579 (text in French).
Order from OTS or SLA $1.60 62-25662

Trans. in French of Teploenergetika (USSR) 1959 [v. 6] no. 5, p. 67-72.

DESCRIPTORS: *Heavy water, Physical properties, Volume, Determination, Temperature, Pressure, Vapor pressure.

Kirillin, V. A., Sheindlin, A. E., and Shpil'rain, E. E.
NEW TABLES OF THE BASIC VALUES OF SPECIFIC VOLUME, SPECIFIC HEAT, AND ENTHALPY OF WATER AND STEAM AT HIGH PRESSURES AND TEMPERATURES (Novye Tablitsy Opornykh Znachenii Udel'nykh Ob'emov, Teploemkostei i Ental'pii Vody i Vodyanogo Para Vysokikh Parametrov).
Mar 62 [16]p. 11 refs. RTS 2056.
Order from OTS or SLA $1.60 62-24366

Trans. of Teploenergetika (USSR) 1956 [v. 3] no. 1, p. 16-21.

DESCRIPTORS: *Water, *Steam, Enthalpy, Specific heat, Volume, Pressure, Temperature, Tables.

The authors carried out a study of the existing experimental data on the specific heat c_p and on the p, v, T relationship for water and steam. On the basis of these studies and the graphical processing of the data they compiled tables of the basis values of specific heat and specific volume up to a pressure of 500 atm abs and a temperature of 650° C. Using the data on p, v, T and the specific heat they calculated and coordinated the values of the enthalpies. The table of basic values of enthalpy also contains data for pressures up to 500 atm abs and temperatures up to 650°C. (Author)

Rabinovich, V. A.
ANALYSIS OF EXPERIMENTAL THERMAL VALUES AND EQUATION OF STATE FOR HYDROGEN. 11 Jan 63, 14p. 19 refs. FTD-TT-62-1569.
Order from OTS or SLA $1.60 63-15535

Unedited rough draft trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1962, v. 5, no. 5, p. 30-37.

DESCRIPTORS: *Hydrogen, *Equations of state, Pressure, Volume, Temperature, Energy, Specific heat, Dissociation, High temperature research.

Detailed analysis is made of the p - v - T data of various experimenters and this is used to derive a grid of reference values for thermal quantities. An equation of state is set up for hydrogen and the feasibility of extrapolating it into the high-temperature region while allowing for the dissociation of hydrogen molecules is demonstrated. (Author)

Regirer, S. A.
DIFFUSION OF A VORTEX LAYER AND HEAT EXCHANGE. [1961] 5p. 1 ref. MDF R-114.
Order from OTS $0.50 62-11640

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 114, no. 4, p. 737-740.

DESCRIPTORS: *Fluids, *Diffusion, *Heat transfer, Perturbation theory, Viscosity, Damping, Numerical analysis, Functions, Partial differential equations.

Styrikovich, M. A., Surnov, V. V., and Vinokur, Ya. G.
EXPERIMENTAL DATA RELATING TO THE HYDRODYNAMICS OF A TWO-PHASE LAYER (Eksperimental'nye Dannye po Gidrodinamike Dvykhfaznogo Sloya). Aug 62 [15]p. 4 refs. RTS 2083.
Order from OTS or SLA $1.60 62-32480

Trans. of Teploenergetika (USSR) 1961 [v. 8] no. 9, p. 56-60.

DESCRIPTORS: *Hydrodynamics, Experimental data, Pressure, Steam, Water, Fluid flow, *Thermodynamics, Manometers.

The results of an investigation of the hydrodynamics of a two-phase layer are given. The investigation was conducted on an experimental installation at pressures ranging from 6 to 92 atm over a wide range of loads, by the γ-ray irradiation method. (Author)

Subbotin, V. I., Ibragimov, M. Kh. and Nomofilov, E. V.
MEASUREMENT OF TURBULENT TEMPERATURE PULSATIONS IN LIQUID FLOW. 13 Dec 62, 15p. 5 refs. FTD-TT-62-1455.
Order from OTS or SLA $1.60 63-15519

Unedited rough draft trans. of Teploenergetika (USSR) 1962 [v. 9] no. 3, p. 64-67.

DESCRIPTORS: *Fluid flow, Turbulence, Water, Liquid metals, Temperature, *Heat transfer

The turbulent temperature pulsations associated with the flow of liquid metal and water in a tube have been measured. Certain laws dealing with the variation in the amplitude and frequency of pulsations in turbulent liquid flow have been established. (Author)

Sychev, V. V.
A NEW EQUATION FOR THE EXPONENT OF THE ADIABATIC OF WET STEAM (Novoe Uravnenie dlya Pokazatelya Adiabaty Vlazhnogo Para). July 62 [15]p. 9 refs. RTS 2043.
Order from OTS or SLA $1.60 62-32470

Trans. of Teploenergetika (USSR) 1961 [v. 8] no. 3, p. 67-70.

DESCRIPTORS: *Steam, *Adiabatic flow, Mathematical analysis, *Differential equations, Thermodynamics, Nomographs.

A new equation for the exponent of the adiabatic is deduced in the two-phase zone of the parameters of state of a pure substance. The exponent of the adiabatic of wet steam is calculated for the 0 ÷ 340°C temperature range. (Author)

Temkin, A. G.
THEOREM ON THE MAXIMUM TEMPERATURE GRADIENT [Teorema o Maksimume Temperaturnogo Gradienta]. [1961] 11p. 8 refs. MDF T-103.
Order from OTS or SLA $1.60 62-15903

Trans. of Zh[urnal] Tekh[nicheskoi] Fiz[iki] (USSR) 1955, v. 25, no. 3, p. 534-540.

DESCRIPTORS: Temperature, *Heat transfer, Theory, *Differential equations, Thermal conductivity.

Wave Propagation

BROADCAST OF STANDARD FREQUENCIES AND TIME TICKS OF THE PHYSIKALISCH-TECHNISCHEN BUDENSTALT (PTS) BRAUNSCHWEIG: TRANSMITTER DCF 77 [Aussendung von Normalfrequenzen und Zeitmessmarken der Physikalisch-Technischen Bundesanstalt (PTB) Braunschweig] tr. by Germann. [17Aug 60] [1]p.
Order from OTS or SLA $1.10 62-24041

Trans. of NTZ [Nachrichtentechnische Zeitschrift] (West Germany) 1960 [v. 13] no. 3, p. 146.

DESCRIPTORS: *Radio broadcasting, *Radio jamming, Frequency, Time signals.

Denisov, N. G.
ON THE INTERACTION OF EXTRAORDINARY AND ORDINARY WAVES IN THE IONOSPHERE AND THE EFFECT OF MULTIPLE SIGNAL REFLECTION. [1961] 4p. 4 refs. MDF D 110.
Order from OTS or SLA $1.10 62-15869

Trans. of #Zh[urnal] Eksp[erimental'noi] i Teor[eticheskoi] Fiz[iki] (USSR) 1955, v. 29, no. 3, p. 380-381.

DESCRIPTORS: *Ionospheric propagation, *Electromagnetic waves, Propagation, Electromagnetic wave reflections, Plasma physics.

Mikaelyan, A. L. and Pistol'kors, A. A.
ELECTROMAGNETIC WAVES IN MAGNETIZED FERRITE IN THE PRESENCE OF CONDUCTING PLANES [Elektromagnitnye Volny v Namagnichennom Ferrite pri Nalichii Provodiashchikh Ploskostei]. [1962] 15p. 4 refs.
Order from OTS or SLA $1.60 62-14042

Trans. of Radiotekhnika (USSR) 1955, v. 10, no. 3, p. 14-24.
Also available from SLA as RT-4103.

DESCRIPTORS: Ferromagnetic materials, *Ferrites, *Electromagnetic waves, Propagation, Electromagnetic waves reflections, Magnetic fields.

Prosin, A. V.
THE DEPENDENCE OF SCATTER POWER ON THE STATISTICAL CHARACTERISTICS OF A TURBULENT ATMOSPHERE. [1962] [14]p. 5 refs. [USASIA] Trans. log. no. 1142.
Order from OTS or SLA $1.60 62-32630

Trans. of #Elektrosvyaz' (USSR) 1960 [v. 14] no. 12 [p. 3-10].

DESCRIPTORS: Atmosphere, *Troposphere, *Atmospheric motion, Dielectric properties, Permeability, *Radio waves, Propagation, *Scattering, Statistical functions, Antennas

On the basis of the correlation function and assuming the intensity of the dielectric permeability fluctuations to be arbitrarily and progressively dependent on height, a general method has been worked out for the calculation of scatter power and antenna gain losses applicable to directional and non-directional antennas. The formulas derived have made it possible to investigate in a general manner the dependence of scatter power and losses in antenna gain on the statistical characteristics of a turbulent atmosphere, and also to compare the results of different scatter theories. (Author)

Umehara, Tadatoshi.
LECHER-GOBAU LINE. [1962] 21p. 4 refs.
Order from SLA $2.60 62-18841

Trans. of [Denki Tsushin Gakkai Zasshi] (Japan) 1961, v. 44, no. 4, p. 500-507.

DESCRIPTORS: *Transmission lines, *Electromagnetic waves, *Propagation, Dielectrics, Electromagnetic fields, Attenuation, Electrical impedance.

In order to improve on various shortcomings of the Goubau line, among which are the scattering by adjacent objects, an increase of loss by earth, and a large radiation loss from the curved portion, ond of the counter-measures proposed is wherein two G lines are placed with a small distance between them, and the two lines, mutually exciting inverse phases, form a propagation line. Two parallel lines with dielectric covering, without the presence of TEM waves, are the line of propagation of the E-H wave, a combination of the E and H waves. It is pointed out that the Lecher line comprises two parallel bare lines; the electric power concentricity factor, attenuation constants and characteristic impedance are calculated. It is also shown that although the attenuation increases, the electric force concentricity factor becomes much superior to the Goubau line. (Author)

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

CYBERNETICS AND AUTOMATIC CONTROL: ARTICLES. 1 Mar 63 [50]p. 15 refs. JPRS: 17899.
Order from OTS or SLA $1.25 63-21236

Trans. of Avtomatyka (USSR) 1962 [v. 7] no. 5, p. 27-33 and 59-73.

DESCRIPTORS: *Cybernetics, *Automation, *Control systems, Differentiating circuits, Biology, Information theory, *Genetics, Coding, Nucleic acids, *Industrial production, Control, Data processing systems, Punched cards, *Conferences; Stability, *Digital computers, *Artificial intelligence, Learning, Reading machines.

Contents:
A study of steady state and dynamics regimes of differential extremal systems, by V. I. Vasil'ev
Deciphering the genetic code, by S. F. Kozubovs'kii (Research Methods, Techniques and Equipment, TT,
Production control by computer, by V. V. Kleshchov
All-Union Conference on invariance theory and its application to automatic systems (no. 2) by S. F. Kozubovs'kii and Yu. V. Krementulo
Trends in cybernetics, by O. G. Ivkhenko.

NATURE, 1962 [VOL. 51] NO. 9: SELECTED ARTICLES. 16 Nov 62 [43]p. FTD-TT-62-1546.
Order from OTS or SLA $4.60 63-15304

Unedited rough draft trans. of Priroda (USSR) 1962 [v. 51] no. 9, p. 3-22.

DESCRIPTORS: *Space flight, *Manned spacecraft, Astronauts, *Space biology, Moon, Mars, Exobiology.

Contents:
A new phase in studying cosmic space
95 hours in cosmos
Triumphs of reason and labor, by M. V. Keldysh
We lived and worked in the cosmos, by A. G. Nikolaev and P. R. Popovich
We see new horizons, by V. A. Ambartsumyan
The secrets of the universe are being revealed, by by A. G. Masevich
Calmly and confidently, by A. V. Palladin
Life beyond the earth, by A. I. Oparin
Next flight to the moon and Mars, by V. G. Fesenkov.

SCIENCE AND LIFE, 1962 [VOL. 29] NO. 9: SELECTED ARTICLES. 10 Dec 62 [51]p. FTD-TT-62-1518.
Order from OTS or SLA $5.60 63-15303

Unedited rough draft trans. of Nauka i Zhizn' (USSR) 1962 [v. 29] no. 9, p. ##2-10, ##15-[20] 54-60. ##Another trans. is available from OTS or SLA $2.60 as 63-13487, JPRS-16776, 20 Dec 62 [25]p.

DESCRIPTORS: *Space flight, Manned spacecraft, *Space biology, Space medicine, *Microorganisms, Remote control systems, *Cosmic rays, Van Allen radiation belt, *Radiation measurement systems, Ionization chambers, Calorimeters, *Neutrinos.

For abstracts of Gazenko and of Zhukov-Verezhnikov and Kopev see Technical Translations 9: 338, 1963.
Contents:
##Five days which electrified the world, by O. G. Gazenko
##Biology and flights into the cosmos, by N. N. Zhukov-Verezhnikov and V. Ya. Kopev
Through the cosmos: into the microcosm, by G. B. Zhdanov.

SCIENTIFIC AND TECHNICAL INFORMATION ON NORTH VIETNAM: TRANSLATIONS. 19 Feb 63 [32]p. JPRS: 17731
Order from OTS $1.00 63-21176

Trans. of Tin Tuc Hoat Dong Khoa-Hoc [sic] (North Vietnam) 1962, no. 10, p. 5-7; Y Hoc Thuc Hanh (Vietnam) 1962, no. 86, p. 1-6, 29.

DESCRIPTORS: Scientific research, *Vietnam, *Electric power production, Power plants, *Industrial medicine, Safety, *Surgery, Medical equipment.

Contents:
Scientific and technical research on electric power in the first 5-year plan, by Trinh Trong Thuc
The service of medical departments to industry
The organization of medical first aid, by Do Quang and others.

Biryukov, B. V.
CONFERENCE ON THE PHILOSOPHICAL PROBLEMS OF CYBERNETICS. 21 Feb 63 [30]p. JPRS: 17764.
Order from OTS or SLA $0.75 63-21187

Trans. of Voprosy Filosofii (USSR) 1962, v. 16, no. 11, p. 146-153.

DESCRIPTORS: *Conferences, *Cybernetics, *Philosophy.

Leont'ev, A. N. and Krinchik, E. P.
SOME PECULIARITIES OF HUMAN INFORMATION PROCESSING. 26 Feb 63 [9]p. JPRS: 17803.
Order from OTS $0.50 63-21194

Trans. of [Nauchnye Doklady Vysshei Shkoly]. Filosofskie Nauki (USSR) 1962, no. 5, p. 109-114.

DESCRIPTORS: *Information theory, *Cybernetics, *Psychology, *Philosophy, Sound signals, Visual signals, Perception, Reaction (Psychology).

Napalkov, A. V.
THE SCIENTIFIC CONFERENCE "LEARNING AUTOMATIC MACHINES AND INFORMATION PROCESSING IN ORGANISMS." 7 Mar 63 [15]p. JPRS: 18017.
Order from OTS $0.50 63-21276

Trans. of #Voprosy Psikhologii (USSR) 1962, v. 8, no. 1, p. 168-173.

DESCRIPTORS: *Cybernetics, *Conferences, Artificial intelligence, *Information theory, Learning.

Neidhardt, P.
THE SIGNIFICANCE OF CYBERNETICS IN SCIENCE, TECHNOLOGY AND ECONOMY IN THE GERMAN DEMOCRATIC REPUBLIC. 8 Mar 63 [9]p. JPRS: 18033.
Order from OTS $0.50 63-21284

Trans. of Nachrichtentechnik (German Democratic Republic) 1963, v. 13, no. 1, p. U1-U3.

DESCRIPTORS: *Cybernetics, *Conferences, Germany, Science, Economics

A report on the conference of the Cybernetics Commission held by the Secretary General of the German Academy of Sciences on October 16th and 17th, 1962 in Berlin, with an invited group of scientists from various fields of specialization. (Author)

Nepras, Vladimir.
CYBERNETICS RESEARCH AT THE INSTITUTE FOR MACHINES AND AUTOMATION OF THE SLOVAK ACADEMY OF SCIENCES. 1 Mar 63 [7]p. JPRS: 17900.
Order from OTS $0.50 63-21237

Trans. from Rude Pravo (Czechoslovakia) 1963, 27 Jan, p. 4.

DESCRIPTORS: *Cybernetics, *Automation, *Scientific research, Artificial intelligence, Control systems, Digital computers, Czechoslovakia.

Nesterov, V. G.
AUTOMATION IN LIVING NATURE AND PLANT HUMIDITY FROM THE STANDPOINT OF CYBERNETICS. 6 Mar 63 [29]p. 21 refs. JPRS: 17959.
Order from OTS $0.75 63-21252

Trans. of [Moskovskaya] Sel'skokhozyaistvennaya Akademiya. Izvestiya (USSR) 1962, no. 4(47) p. 34-52.

DESCRIPTORS: *Automation, *Cybernetics, Bionics, Artificial intelligence, Biology, *Ecology, Control systems, *Plants, *Humidity, Control.

Nature possesses some degree of automatism which constitutes the independent maintenance of vital constants (body temperature, plant humidity, sugar level in the blood, etc.) despite various changesin environmental conditions. The constants are not absolute; they vary periodically and rhythmically and are at the same time subject to dynamics in whole cycles, so that we call them reloconstants. Automatism in living systems is highly relative and depends on conditions with which the living portion constitutes a contradictory diatope. The level of automatism is the final result of the action of the environment, In the cybernetic sense automatism is an output, and the action of the environment is the input in the diatopic system. The forms of input-output

connection in bioecological systems can have the form of various mathematical equations. For example, weather and plant humidity are related by an integral equation, largely with a hyperbolic basis. The concepts of the automatism of living nature which the author has elaborated in the present article are termed "cybernetics of living nature", "biocybernetics", and "bioautomation" which are all synonymous. (Author)

Office of Technical Services, Dept. of Commerce, Washington, D. C.
MANAGEMENT PLANNING AND CONTROL TECHNIQUES: PERT, CPS, CPM, PEP, LESS, TOPS, CRAM, SCANS, COMET, PROMPT, ETC. Jan 63, 6p. 42 refs. OTS Selective Bibliography SB-510.
Order from OTS $0.10 OTS SB-510

DESCRIPTORS: *Management engineering, Control systems, *Bibliography, *Scheduling

Lists 42 references on various new management techniques for planning, scheduling, implementing, directing and controlling projects. These techniques are especially useful as working tools for management and engineers on engineering and scientific research & development projects, but can also be applied to the fields of industrial production, scheduling and programming, accounting, procurement, new product design, etc. Includes reports on Program Evaluation and Review Technique (PERT), Critical Path Scheduling (CPS), Critical Path Method (CPM), Program Evaluation Procedure (PEP), Least Cost Estimating and Scheduling (LESS), Integrated Master Programming & Scheduling (IMPS), The Operational Pert System (TOPS), Contract Requirement Recording Analysis & Management (CRAM), Program Management Planning Techniques (PROMPT), Scheduling & Control by Automated Network Systems (SCANS), Project COMET. (Author)

Partos, Judit.
STATUS AND DEVELOPMENT OF HUNGARIAN RESEARCH INSTITUTES FROM 1953-59 (A Tudomanyos Kutatointezetek Helyzete es Fejlodese (1953-59). 14 Aug 61 [33]p. JPRS: 9864.
Order from OTS or SLA $3.60 63-15432

Trans. of Statisztikai Szemle (Hungary) 1961, v. 39, no. 5, p. 529-537.

DESCRIPTORS: *Scientific research, *Scientific organizations, Scientific personnel, *Hungary.

Ruzhitskii, V. O.
TRENDS IN SCIENTIFIC RESEARCH IN 1963 IN AFFILIATES OF ACADEMY OF SCIENCES USSR. 22 Mar 63 [9]p. JPRS: 18300.
Order from OTS $0.50 63-21393

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 10, p. 69-71.

DESCRIPTORS: *Scientific research, Scientific organizations, Chemistry, Geology, Hydrology, Engineering, Biology.

Olszak, Waclaw.
NEED FOR COORDINATION OF SCIENTIFIC RESEARCH WORK IN POLAND. Speech made during the General Assembly of PAN, 9 May 58. 14 Mar 63 [7]p. JPRS: 18124.
Order from OTS $0.50 63-21320

Trans. of Nauka Polska, 1958, [v. 6] no. 4, p. 80-84.

DESCRIPTORS: Scientific research, *Research program administration, *Poland.

Communication Theory

HERALD OF COMMUNICATIONS, 1962, [VOL. 22] NO. 11[272]. 11 Mar 63 [142]p. JPRS: 18058.
Order from OTS $2.75 63-21296

Trans. of Vestnik Svyazi (USSR) 1962 [v. 22] no. 11(272).

DESCRIPTORS: *Periodicals, *Communication systems, *Communication equipment, Telegraph systems, Telephone communication systems, Radio relay systems, Radio broadcasting, Radio stations, Remote control systems, Newspapers, Television receivers, Electric cables, Rural areas, Engineering personnel, Labor.

Contents:
On the labor honor of Soviet communication worker, by N. D. Psurtsev
Single-channel voice-frequency telegraph apparatus employing semiconductor devices (OTT-2) by M. S. Tarakanova and M. P. Sverdlov
Mechano-electronic ATS(automatic telephone system), by O. N. Ivanova
PPM-AM modulation with time division of channels in radio-relay lines, by L. G. Yanin
On some technical possibilities of organization of stereophonic broadcasting and improvement in the quality of single-channel low-frequency broadcasting systems, by I. A. Shamshin
Handling of ultrashort-wave fm radio broadcasting stations by remote control, by V. N. Bel'skii
Mechanization of the processing and dispatch of newspapers at Leningrad post office, by A. K. Rodionov and I. M. Iokshin
Consolidation of wire-broadcasting facilities in Stainslavskaya oblast, by I. M. Brodskii
Present-day level of communications makes it possible to serve the population well, by S. G. Volkov and L. Ya. Yakovlev
Grievances of television-set owners, by A. M. Podol'skii
From the experiences of laying cable having plastic sheathings, by I. P. Tsvetkov
Furnishing territorial administrations with facilities for communication with kolkhozes and sovkhozes, by T. K. Guseinov
Communications workers of Zyryanovsk to the territorial administration, by N. G. Simakov
Linemen need mechanization facilities, by A. A. Kamskii
In honor of the 45th anniversary of the Great October Revolution
Communication workers in the days of October, by N. S. Zabavnikov
An outstanding organizer of Socialist communication, by B. I. Rasin
Inauguration of friendship, prosperity and abundance, by W. Pereira
Decisions of higher judicial bodies on cases pertaining to improper dismissal from work, by V. E. Sinyukhin
Autoresponder

Fisher, F. and Rassow, H.
METHOD FOR THE TRANSMISSION OF TELEGRAPHIC SIGNALS WHEREIN TO AVOID TROUBLE, THE SIGNALS ARE REPEATED AND THE PRINTING OF A FAULTY SIGNAL IS PREVENTED. 29 May 50, 11p. (figs. omitted).
Order from OTS or SLA $1.60 62-18490

Trans. of German patent 529,817, cl. 21a, gr. 7, pub. 9 July 31, issued 18 July 31, pat. from 11 Apr 28, by Siemens and Halske A.G.

DESCRIPTORS: *Telegraph signals, Signals, *Transmission, Corrections, Telegraph equipment, Magnetic cores.

Gerenrot, E. L.
INTERFERENCE-RESISTANCE IN TELEGRAPH COMMUNICATION OVER A TELEPHONE CHANNEL OF A TROPOSPHERIC LINE. [1962] [9]p. 4 refs. [USASIA] Trans. log no. 1153.
Order from OTS or SLA $1.10 62-32624

Trans. of #Elektrosvyaz' (USSR) 1961 [v. 15, no. 3, p. 3-7].

DESCRIPTORS: *Telegraph signals, Transmission, Interference, Resistance (Electrical), Probability, *Telephone communication systems, *Radio relay systems, *Troposphere, Frequency modulation, Multiplex, Diversity reception

The paper determines the probability of failure when frequency telegraphy is passed over the telephone channel of a tropospheric radiorelay line with frequency multiplexing and frequency modulation using single and diversity reception with autoselection. (Author)

Haussig, D.
SURVEY AND COMPARISON OF KNOWN PROCESSES FOR THE DETECTION OF PERIODIC PULSES IN THE PRESENCE OF NOISE. [1962] 41p. (figs. omitted) 9 refs.
Order from SLA $4.60 62-18326

Trans. of Hochfrequenztechnik und Elektroakustik (East Germany) 1960, v. 69, no. 3, p. 94-103.

DESCRIPTORS: *Signal-to-noise ratio, *Radar signals, Radar pulses, Noise (Radar), *Detection, Pulse integrators, Correlation techniques, Statistical functions.

Starting with very general conditions, namely that a signal-noise mixture of the form $y(t) = s(t) + r(t)$ is given in the time interval $0 \leq t \leq T$, where $s(t)$ is the signal function and $r(t)$ is the disturbance function (noise) of a stationary stochastic process with the autocorrelation function $R(\tau; T)$, we wish to find the linear filter which will have the maximum ratio of output signal to noise when the above mentioned signal-noise mixture (hereafter designated as S/R mixture) is fed to the input of the linear filter. The results are specially considered for the conditions occurring in radar engineering, whereby an ideal integrator is achieved. The theoretically calculated improvement in S/R ratio is compared with the theoretically calculated improvement in S/R ratio with formation of the short-term cross-correlation function between the S/R mixture and pulses coherent with the radar signal. Two processes are described and discussed in somewhat more detail. The first of these processes can be derived from the ideal integrator, and the second is based on the formation of the above mentioned short-term cross-correlation function; this latter was also tried in practice. (Author)

Hiwatashi, Kenji and Iwamura, Soichi.
TRANSMISSION OF IMAGES ON NEGATIVE FILM FOR TELEVISION. [1962] 58p.
Order from SLA $5.60 62-18679

Trans. of N H K [Gijutsu Kenkyu] (Japan) 1960, v. 12, no. 3, p. 199-223.

DESCRIPTORS: *Video signals, *Transmission, Television equipment, Pictures, Reproduction.

SOCIAL SCIENCES

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 20. 15 Oct 62 [16]p. JPRS: 15711.
Order from OTS or SLA $1.60 63-15930

Trans. from Lesnaya Promyshlennost' (USSR) 1962, 28 July, p. 3; Pravda, Leningrad (USSR) 1962, 10 July, p. 2; Pravda, Moscow (USSR) 1962, 27 July, p. 2-3.

DESCRIPTORS: Economics, Paper industry, *Industrial equipment, *Industrial production, *Machines, Construction.

Contents:
Leningradskii sovnarkhoz holds back production of paper manufacturing equipment, by A. Mikhailov and T. Starichkov
Commodity production in Leningrad and Leningradskaya oblast
Specialization in machine building and technical progress, by A. Kostousov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 33. 19 Feb 63 [12]p. JPRS: 17710.
Order from OTS $0.50 63-21160

Trans. of Referativnyi Sbornik. Ekonomika Promyshlennosti (USSR) 1962, no. 11, p. 12 (excerpts); no. 12, p. 63; and from Ekonomicheskaya Gazeta (USSR) 1962, no. 50[71] p. 42; Turkmenskaya Iskra (USSR) 1962, 31 Oct.

DESCRIPTORS: *Industrial production, *Economics, Machines, Construction, Budgets, Costs.

Contents:
Concerning specialization of the machine building industry of Moldávia
Basic funds, production capacities and their utilization, economic effectiveness of capital investments, by V. Sh.
Specialization on the side of the road
Vital tasks of machine building, by Yu. Chukhlantsev.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 35. 25 Mar 63 [7]p. JPRS: 18317.
Order from OTS $0.50 63-21401

Trans. from Czerwony Sztandar (Lithuanian SSR) 1963, 12 Feb, p. 3; and 15 Feb, p. 2

DESCRIPTORS: Economics, *Urban areas, Growth, *Foundries, Industrial production
Contents:
Growth of the town of Anikshchyai, by B. Zemajtis
The Venibe foundry in Ukmerge, by A. Zacharow.

NEW TREATIES AND OTHER DEVELOPMENTS IN THE FIELD OF INTERNATIONAL REGULATION OF DEEP-SEA FISHING AND WHALING. 8 Mar 63 [10]p. JPRS: 18027.
Order from OTS $0.50 63-21280

Trans. of Rybnoe Khozyaistvo (USSR) 1962 [v. 38] no. 11, p. 92-94.

DESCRIPTORS: *Political science, *Fisheries, *Cetacea, Control, Baltic sea, Antarctic regions.

Contents:
New treaty among governments of the USSR, GDR, and Polish people's Republic on cooperation in the field of deep-sea fishing
In the International Council on Investigation of the Sea
Treaty on regulation of pelagic whaling in the Antarctic.

Chikin, S. Ya.
AUTOMATION OF PRODUCTION AND THE DETERIORATION OF THE HEALTH OF WORKERS IN CAPITALIST COUNTRIES. 7 Feb 63 [16]p. 1 ref. JPRS: 17527.
Order from OTS $0.50 63-21075

Trans. of Sovetskaya Meditsina (USSR) 1962 [v. 26] no. 11, p. 98-103.

DESCRIPTORS: *Automation, *Industrial production, *Labor, *Economics, Physical fitness, Health physics.

Zhemchuzhnikova, N.
PROBLEMS OF HOUSING IN COAL-MINING DISTRICTS (Voprosy Rasseleniya v Raionakh Ugol'noi Promyshlennost) tr. by G. L. Cairns. Oct 61 [8]p. DSIR Library Communication no. 1076; NLL M.6005.
Order from OTS or SLA $1.10 62-25916

Trans. of Arkhitektura SSSR, 1961, no. 2, p. 28-30.

DESCRIPTORS: *Housing, Coal, Mines, Industrial research.

Documentation

CURRENT REVIEW OF THE SOVIET TECHNICAL PRESS: SEMIANNUAL INDEX 12 JAN-13 JULY 62. [1963] 93p.
Order from OTS $1.00 63-11571

Includes OTS nos. 60-21441-88 through 60-21441-114.

DESCRIPTORS: *Industrial research, *Scientific research, Periodicals, *Indexes.

Articles indexed in this publication appeared in the Current Review of the Soviet Technical Press from January 12, 1962 through July 13, 1962. The Index is made up of three major parts: Subject Index, Author Index, and Source Index. Entries in the Subject Index consist of article titles arranged in a numerical sequence within general subject areas. The numerical sequence is keyed to the issue and page number of the Current Review in which the article appeared. The Author and Source Indexes are alphabetical listings of each personal author and source also keyed to issue and page numbers of the Current Review. Issue numbers are found at the bottom of each page of the Current Review in parenthesis and are preceded by the page number. This Index includes issues 614 through 740. The Index is published in semiannual and annual cumulations.

[DOCUMENTATION NEWS] 1962, VOL. 13, NO. 2: [EXCERPTS]. [1962] 5p.
Order from SLA $1.10 62-20236

Trans. of Nachr[ichten für] Dok[umentation] (West Germany) 1962, v. 13, no. 2, p. 65, 93-95.

DESCRIPTORS: *Documentation, Dissemination, Periodicals, Abstracts, Information theory.

Contents:
Organization of the circulation of periodicals, by H. Linnenkohl.
The significance of the intercompany abstract organ, by H. Linnenkohl
Information in large companies, by E. Wiedemann
Documentation and flow of information in a middle-sized company, by H. Linnenkohl
Possibilities of the company information system in a growing middle sized concern, by Mrs. Gabriel.

BOOK REVIEWS

The following book reviews can be ordered by number from OTS or SLA for $1.10 each. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents.

BR-SOV/6009
Antomonov, Yuriy Gure'yevich
USE OF COMPUTERS IN AUTOMATIC CONTROL: SYNTHESIS OF OPTIMALIZING HIGH-SPEED SYSTEMS (Avtomaticheskoye upravleniye s primeneniyem vychislitel'nykh mashin: sintezsistem, optimal'nykh po bystrodeystviyu) Leningrad, Sudpromgiz, 1962. 339p. Errata slip inserted. 8000 copies printed.

BR-SOV/6012
ATOMATIC REGULATION AND CONTROL (Avtomaticheskoye regulirovaniye i upravleniye) Moscow, Izd-vo AN SSSR, 1962. 526p. Errata slip inserted. 9000 copies printed.

BR-SOV/6062
Vaynberg, M. Sh., A. N. Krongauz, R. S. Mil'shteyn, V. I. Tryapitsin, and A. V. Frolova.
MANUAL ON DOSIMETRIC INSTRUMENTS FOR X-RAY AND ATOMIC RADIATION (Praktikum po dozimetricheskim priboram dlya rentgenovskogo i yadernykh izlucheniy). Moscow, Medgiz, 1961. 182p. 7000 copies printed.

BR-SOV/6088
Paushkin, Yaroslav Mikhaylovich
CHEMISTRY OF JET FUELS; FUELS FOR JET AND ROCKET ENGINES (Khimiya reaktivnykh topliv; topliva dlya vozdushno-reaktivnykh i raketnykh dvigateley) Moscow, Izd-vo AN SSSR, 1962. 435p. Errata slip inserted. 4000 copies printed.

BR-SOV/6090
Vorontsov, Daniil Semenovich
GENERAL ELECTROPHYSIOLOGY (Obshchaya elektrofiziologiya). Moscow, Medgiz, 1961. 488p. 5000 copies printed.

BR-SOV/6091
Pidstrygach, Yaroslav Stepanovich and Stepan Yakymovych Yarmea
THERMAL STRESSES IN SHELLS (Temperaturni napruzhennya v obolonkah). Kyyiv, Vyd-vo AN UkrRSR, 1961. 211p. 450 copies printed.

BR-SOV/6094
Polozhiy, G. N.
NUMERICAL SOLUTIONS OF TWO-DIMENSIONAL AND THREE-DIMENSIONAL BOUNDARY-VALUE PROBLEMS IN MATHEMATICAL PHYSICS AND DISCRETE ARGUMENT FUNCTIONS (Chislennoye resheniye dvumernykh i trekhmernykh krayevykh zadach matematicheskoy fiziki i funktsii diskretnogo argumenta). [Kiyev] Izd-vo Kiyevskogo universiteta, 1962. 160p. 4500 copies printed.

BR-SOV/6095
Muskhelishvili, Nikolay Ivanovich
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